

Inventory of CGIAR Activities
in
Sub-Saharan Africa (1986)

Prepared for the Center Directors
Working Group on Sub-Saharan Africa

April, 1987

ISNAR

INTERNATIONAL SERVICE FOR NATIONAL AGRICULTURAL RESEARCH

CONTENTS

BACKGROUND

PURPOSE

FOCUS

METHODOLOGY

FINDINGS

FINAL OBSERVATIONS

ANNEXES:

I Tables

II Commodity List

III Questionnaire
Guidelines
Activity Codes

IV Country List and TAC Regions

V Summary of Indicators for Sub-Saharan Countries

VI List of CGIAR Activities in Sub-Saharan Africa
by Targeted Country

BACKGROUND

Sub-Saharan Africa continues to be plagued by chronic food shortages and low levels of food self-sufficiency. The causes of the region's agricultural problems are many and complex. International Agricultural Research Centers (IARCs), working in collaboration with strong National Agricultural Research Systems (NARS), offer the potential of some of the most satisfactory long-term solutions. This involves strengthening research policy, generating improved technology, and assisting in the build-up of national agricultural research capacities. The CGIAR already devotes over 50% of its resources to Sub-Saharan Africa. More than 140 senior staff of the Centers are currently posted in the region. Given this large commitment of limited CGIAR resources, every effort is being made to guarantee full and efficient use of these resources.

To this end, the Working Group of CGIAR Center Directors agreed to collaborate with a CGIAR Task Force on Africa to maximize the effectiveness of CGIAR work in Sub-Saharan Africa. The first step in this process is the collection of data to provide a clear and objective assessment of the CGIAR's present activities in the region. This task, administered by ISNAR and reported below, has been conducted in two stages.

In August 1986, ISNAR prepared and sent out a preliminary questionnaire to all participating Centers; these comprised the 13 CGIAR Centers and 7 other IARCs. Responses were received from 11 CGIAR Centers and 4 non-CGIAR Centers in time to be included in the initial draft report dated October 27, 1986 (Presented to the Center Directors in Washington, October 86)

That inventory provided preliminary insights into the main issues addressed by the IARCs in Sub-Saharan Africa. The inventory focussed on the activities of crop improvement, policy analysis, training, strengthening NARS, and technical assistance. The data gathered also served to point out areas of potential overlap and/or gaps.

On the basis of that report, and at the request of the Center Directors, the second stage of the inventory was initiated. A revised questionnaire, designed to collect more detailed and consistent data was sent to the 13 CGIAR Centers on December 17, 1987.

The responses to the revised questionnaire provide much more detailed information on the breakdown of activities by the Centers across countries, commodities, funding sources, and type of activities. Collaboration between the various Centers and between the Centers and NARSs is reported by phase of the activities (eg. design, execution, analysis, and evaluation) and by degree of collaboration. These data, and analysis of the results, are contained in the following report.

On behalf of the Working Group of CGIAR Center Directors, ISNAR would like to thank the Center Directors and staff involved in the rather tedious job of collecting the required data, and Dr. Patricia Roberts Pichette of the TAC Secretariat for her help in the initial questionnaire design.

PURPOSE

The CGIAR Sub-Saharan Africa Activity Inventory - a database of current activities conducted by the CGIAR in or for Sub-Saharan Africa - has three main purposes:

- 1) To gain a better understanding of the scope of the CGIAR System's effort targeted on Sub-Saharan Africa.

The scope and contribution of CGIAR activities in Sub-Saharan Africa can best be judged by viewing the totality of the Centers' efforts in the region. This study inventories all the activities reported by the Centers that occurred in or for Sub-Saharan Africa in 1986. This information, together with data on the total available human resources of the CGIAR System and the region's NARS, provides a context in which to understand the requirements, the effectiveness, and the potential for International Agricultural Research in Sub-Saharan Africa.

- 2) To provide an objective basis for assessing how effectively the Centers are addressing the needs of the African NARS.

The study provides a detailed look at the specifics of the Centers' activities in Sub-Saharan Africa, in terms of targeted countries and commodities, research emphasis, and operational methods.

- 3) To provide information addressing the concerns of some members of the donor community that the Centers' multiple activities result in inefficient use of scarce resources.

Certain donors are concerned that the multiplicity of Center activities in Sub-Saharan Africa result in inefficiency due to overlap and duplication of effort, and competition among Centers for high visibility projects during periods of scarce funds. There is also a concern that the intense involvement in Sub-Saharan Africa overloads some of the weaker NARS. The study highlights possible problem areas and indicates approaches that the Centers could use to overcome these constraints.

A further useful product of the current inventory has been the establishment of a system-wide database on IARC activities in Sub-Saharan Africa. While there are currently no plans to continue this study as an annual exercise, the 1986 inventory can serve as a base line from which to measure any future shift in emphasis by the CGIAR as it responds to changing demands for its services. The development of the standard questionnaire, and the related data management software used to collate the responses, could lead to a continuing annual effort of data collection by an individual Center or by Center Directors collectively on behalf of the System.

FCCUS

In order to provide the detailed information required to fulfill the purpose of the study as stated above, the questionnaire was designed to answer six basic questions. These serve as the focus for the study.

- 1) What is the level of the overall commitment of the CGIAR to Sub-Saharan Africa?

The study details the human resource commitments of all the Centers in Sub-Saharan Africa relative to their total available human resources world-wide. The differences among Centers effort in Sub-Saharan Africa are presented in absolute terms of the number of person months of senior scientists each devotes to the region as well as in relative terms by percentage of their total available person months.

- 2) What is the focus of the activities in Sub-Saharan Africa by the CGIAR Centers?

Each Center was asked to detail all its activities in Sub-Saharan Africa by function, by targeted commodity, and by operational method.

a) Function: Each activity is described by one or more activity codes. These categorize all activities by 12 main areas of CGIAR emphasis.

- 1 Plant Genetic Resources
- 2 Natural Resources Research
- 3 Crop Productivity Research
- 4 Livestock Productivity Research
- 5 Crop/Livestock Production Systems Research
- 6 Commodity Conversion and Utilization Research
- 7 Human Nutrition Linkages
- 8 Policy Research
- 9 Human Resource Enhancement (Training)
- 10 Institution Building
- 11 Collaborative Research Networks
- 12 Transfer of Technology and Research Methods

These broad categories are further broken down into multiple sub-codes to define more exactly the focus of the activities. A complete list of the activity codes and definitions is included in Annex III.

b) Targeted Commodity, where applicable: Each activity focussed on one or more commodities is so detailed. The amount of effort devoted to each commodity is specified in terms of person months. A list of all commodities reported by the Centers as the the subject of one or more activities is included as Annex II.

c) Operational Method: Each activity is further described by its operational method:

- Research
- Training
- Advisory Services
- Technical Assistance
- Conferences and Seminars
- Other forms of Information Dissemination.

- 3) What is the location of these activities and which countries benefit?

This addresses the issue of which countries are benefiting from the CGIAR Centers' work in Sub-Saharan Africa. The study provides a picture of where each Center works in Sub-Saharan Africa and serves to point out where gaps and/or overlaps may exist.

- 4) How do the Centers collaborate with the NARS in the region and with the other Centers?

This question seeks information on the methods of collaboration between Centers themselves and between the Centers and their clients, the NARS. Which activities involve the most collaboration and in what phases (design, execution, analysis, and evaluation) of the activity does the collaboration occur?

- 5) How do the Centers' activities strengthen the NARS of Sub-Saharan Africa?

Institution building and training, as well as collaboration, serve as the primary methods for strengthening NARS. The question seeks data on what portion of the Centers' resources are devoted to these functions.

- 6) What is the influence of donors on the scope and location of CGIAR activities in Sub-Saharan Africa.

This question identifies the funding sources of the activities of the Centers in Sub-Saharan Africa. It seeks to determine if there are distinct types of activities which are typically funded from non-core funds.

METHODOLOGY

The Inventory was carried out in two stages, each seeking information from the IARCs through the completion of questionnaires detailing the Centers' activities in Sub-Saharan Africa.

1) The Preliminary Study, August 1986.

The preliminary questionnaire, circulated to the Centers in August 1986, introduced two concepts necessary for disaggregated but consistent data collection. Each Center was asked to fill out one questionnaire for each "Activity in or for Sub-Saharan Africa". These "Activities", as defined in the notes accompanying the questionnaires, are the basic unit of the Centers' work with African countries.

"An Activity is a discrete project or event which is set apart by its objective, source of funding, or particular collaborative relationship, such that the Center is able to identify it as a separate unit of work."

There is no minimum or maximum size for an activity. This broad definition was necessary to allow consistent reporting of the wide variety and types of Center activities. The relative size and importance of the activity is measured by the "senior staff person months" committed to the activity.

"Senior staff person months" is used as a common measure for three reasons: 1) It is closely related to an activity's budget, 2) It provides a good indication of an activity's size, and 3) It can generally be specified by the scientists involved without reference to the Centers' Financial Officers.

These two concepts allow each Center to report its work in Sub-Saharan Africa in the manner that most closely parallels its existing program management structure and gets information from the scientists who best understand the program. The cost of using these concepts, compared to reporting activities in financial terms, is a small loss of resolution. In some cases, differing interpretations of the terms by the Centers resulted in a small amount of inconsistent reporting between Centers. These inconsistencies concerned, primarily, the scale of an Activity. In almost all cases, however, discussions with the Centers resolved any problems.

Using these concepts, the preliminary questionnaire requested a standard set of information for each activity from each Center. This information included:

- a) Descriptive name of the Activity.
- b) Commodity Keywords if applicable.
- c) Primary and Secondary Activity Codes (nature of the activity).
- d) Country in which the activity is located.
- e) Other countries for multi-country activities.
- f) Person/months of senior staff time "At Center" for the Activity.
- g) Person/months of senior staff time "In Country" for the Activity.
- h) Amount of the senior staff time that is Special Project Funded (if any).
- i) Names of the donors for the Special Project Funding (if any).

- j) Names of the principal collaborating institutions in the country.
- k) Characteristics of the Activity (Training, Research, Technical Assistance)
- l) Number of trainees from Africa (if activity involved training).
- m) Location of training activities.
- n) Type of the primary contributors to the activity (NARS, other Centers, Universities, etc)
- o) Larger program or project under which the activity is funded (if applicable).

The responses to the preliminary questionnaire were analysed using a micro-computer database program and presented in draft form to the Center Directors at the Center Directors Meeting in Washington, October 1986.

2) The Second Questionnaire.

The second questionnaire used the same two broad concepts of "Activities" and "Senior Staff Person Months". However, on the basis of requests from the Center Directors, more detailed information was sought. Again, the constraints were that a standard, comparable, set of data had to be collected without unduly burdening Center scientists and without forcing all Centers to adopt rigidly confining definitions of their research. The main problem areas were:

- 1) The relative importance of the activity. What common measure can be used that rationally compares the size and importance of the individual activities of the Centers?
- 2) The focus of the activity. Many activities do not fall neatly into one of the designated Activity codes. How then can those activities be accurately represented?
- 3) The targeted countries. Many activities benefit more than one country. How can the relative benefits to each country be evaluated?
- 4) The targeted commodities. Many activities also target more than one commodity. How can the amount of effort devoted to each commodity be reported?
- 5) Collaborative efforts. These form an extremely important component of the CGIAR System's research. How can the different types and levels of collaboration be reported?
- 6) Scale of Training activities. Training is an indispensable component of strengthening the national research systems. How should the scope and focus of training activities be evaluated?

The difficulties of allocating effort to individual countries, commodities, and activity codes were approached using a prorating system. If an activity was targeted at more than one country or commodity, or activity code, the center was asked to prorate the person months ascribed to that activity among the countries, commodities, and activity codes as they saw fit.

The questionnaire asked a number of standard questions:

- a) Descriptive name of the Activity.
- b) Targeted Commodities, prorated if applicable (up to 5).
- c) Activity Codes, prorated if applicable (up to 2).
- d) Targeted Countries, prorated if applicable (up to 5).
- e) Total person months of senior staff time devoted to the Activity.

- f) Percentage of the total person months contributed by consultants.
- g) Operational methods by which the activity is conducted, prorated among Research, Training, Advisory Services, Technical Assistance, Conferences/Seminars, and Information Dissemination.
- h) Whether the activity is funded under a larger project.
- i) Start date, finish date, and whether the event is repeated annually.

More detailed information was requested on the following topics:

Location and Funding Sources

- a) Person months of senior staff time "At Center" for the Activity.
- b) Donors for person months "At Center", prorated if applicable (up to 3).
- c) Person months of senior staff time "At Sub-Center" for the Activity.
- d) Donors for person months "At Sub-Center", prorated if applicable (up to 3).
- e) Person months of senior staff time "In Targeted Country" for the Activity.
- f) Donors for person months "In Targeted Country", prorated if applicable (up to 3).
- g) Person months of senior staff time "In Other Locations" for the Activity.
- h) Donors for person months "In Other Locations", prorated if applicable (up to 3).

Training Activities

- a) Number of trainees from Africa (if the activity involved training).
- b) Location of training activities.

Collaborative Activities

- a) Names of the principal collaborating organizations in the country.
- b) Role of the collaborators in the various phases of the activity (design, execution, analysis, evaluation), prorated if applicable.

The preliminary questionnaire did not allow a separation of the person months targeted to a particular country and the person months conducted at a Center located in that country. This resulted in certain countries, such as Kenya, Nigeria, and Ethiopia, appearing to benefit disproportionately from the CGIAR activities in Africa. The second questionnaire eliminated this problem by allowing the centers to attribute person months of effort directly to the targeted country.

The questionnaire was sent to all CGIAR Centers on December 17, 1986. Detailed guidelines for completing the activity questionnaires were sent to each Center along with blank questionnaires, a list of activity codes and definitions, and a list of the countries in Sub-Saharan Africa. (All are included as Annexes III and IV.) All Centers were asked to respond by January 15th. As responses were received, any anomalies or inconsistencies were noted and clarifications were requested of the Centers by telex. In all cases, when changes were made to any data, the Centers were consulted and requested to modify the inconsistent data themselves.

All responses were entered into a database using micro-computers which performed simple error checking. Using the database management software, cross tabulation and summaries of important relationships were produced. These, along with several summary graphs are included in the current report. It should be noted, however, that many more cross tabulations could be produced and other relationships explored.

The procedures for data entry, data checking, and production of the standard cross tabulations and data summaries have been automated. The resulting software package is available, on diskette, along with the actual 1986 data.

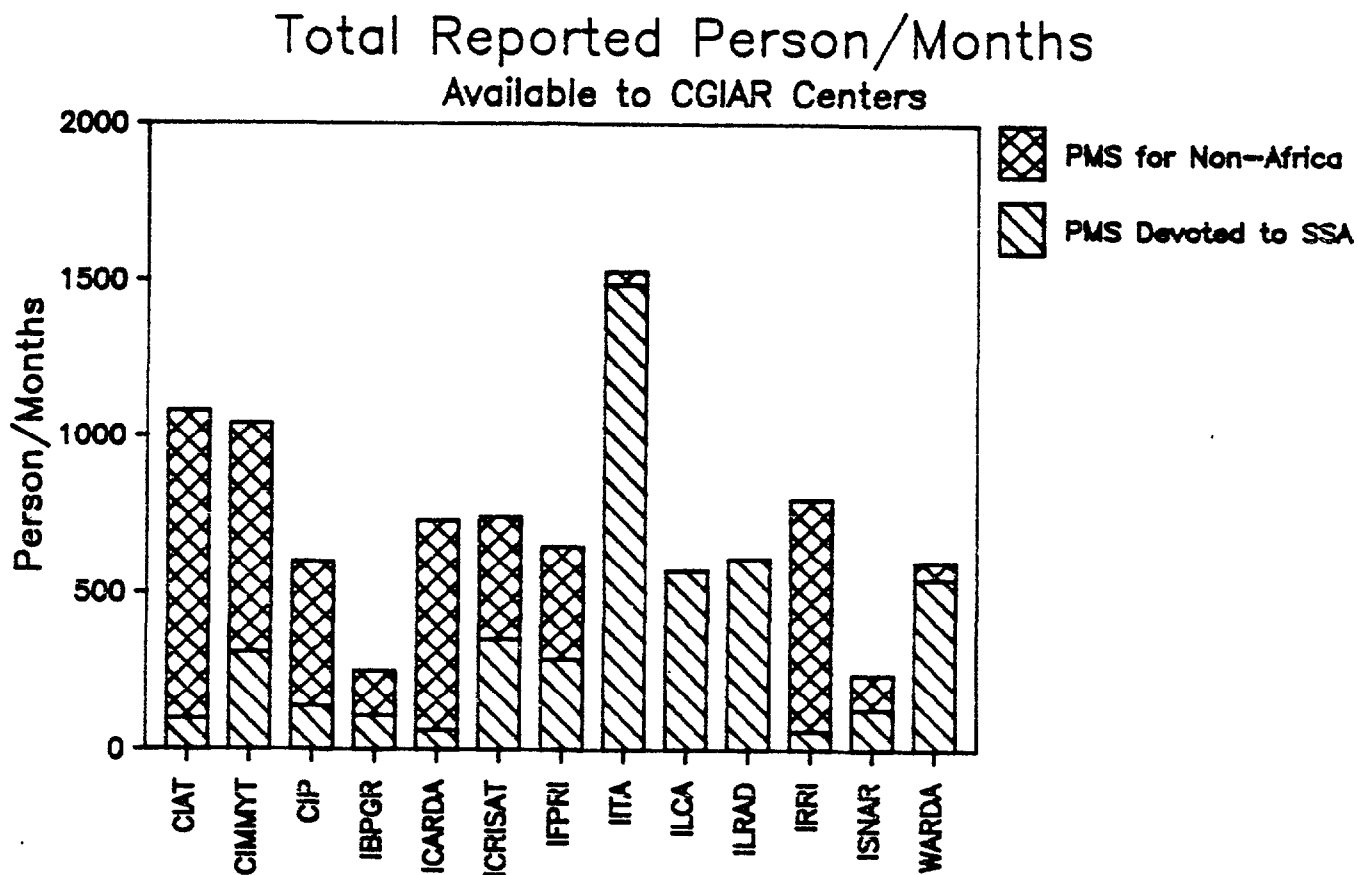
FINDINGS

The results of the second questionnaire expand the conclusions of the preliminary survey and present the work of the CGIAR Centers in Sub-Saharan Africa in great detail. The data, summarized for all Centers, are presented in the tables accompanying this report as Annex I. Five broad conclusions emerge and are dealt with below.

1. The CGIAR Centers cover a very broad mandate with limited resources. In Sub-Saharan Africa, the Centers face the dilemma of trying to devote adequate effort to an enormously varied continent and range of commodities without excessive dispersion and without abandoning their role in the rest of the world.
2. In the Centers' work in Sub-Saharan Africa, there is a high degree of collaboration with the NARS. This collaboration yields benefits to both the NARS and the Centers. The degree of collaboration, of course, varies by the type of activity, the Center, and the NARS involved. In general, the highest rates of collaboration occur in the execution and analysis phases of the activities. There is less collaboration during the design and evaluation phases. Collaboration with universities is generally less developed than with national agricultural research institutes and could be the focus of further attention.
3. Collaboration between CGIAR Centers is significant. Center/Center collaboration is essential to maximize the efficient use of the CGIAR Systems limited resources. In particular, there is collaboration between those Centers located in Sub-Saharan Africa and those located in other parts of the world. Collaboration between Centers is fairly evenly spread across the all phases of the activity.
4. Training activities involving African nationals is an important part of the Centers' programs. This training is the basis for the long term strengthening of the NARS. In 1986, 3297 African nationals were reported by the Centers to have received some form of training from the CGIAR Centers. Most of this training, about 60 percent, occurs at Center Headquarters. Virtually all of the rest occurs in the targeted countries.
5. A high proportion of Center activities in Sub-Saharan Africa are supported through special project funding. This reflects donor response to the crisis in Sub-Saharan Africa and the Centers' ability to adjust their programs quickly. This raises the question of the sustainability of the current level of research in Sub-Saharan Africa if donor response to a perceived crisis is not converted into sustained commitment to research over the long term.

1. The limited resources of the CG System are very thinly spread.

The CGIAR system of 13 International Agricultural Research Centers is recognized as one of the most important contributors to the increase in agricultural production in the developing world over the last 20 years. Despite the significant impact of the CGIAR, the Centers themselves remain relatively small institutions with limited resources.



CGIAR Inventory (1986) - Graph 1

The first graph shows the relative size of the individual Centers' total resources in person months of senior scientists. The fraction of each Center's total available person months that are devoted to Sub-Saharan Africa are also shown. The CGIAR Centers report that they have at their disposal 9443 person months of senior scientist resources (as defined in this inventory). Of these, 4747 are devoted to Sub-Saharan Africa. Thus, 50% of CGIAR System's resources are targeted at 16% of the population and 33% of the land area in the developing world. (See Annex IV). This information is presented in more detail in Table 1.

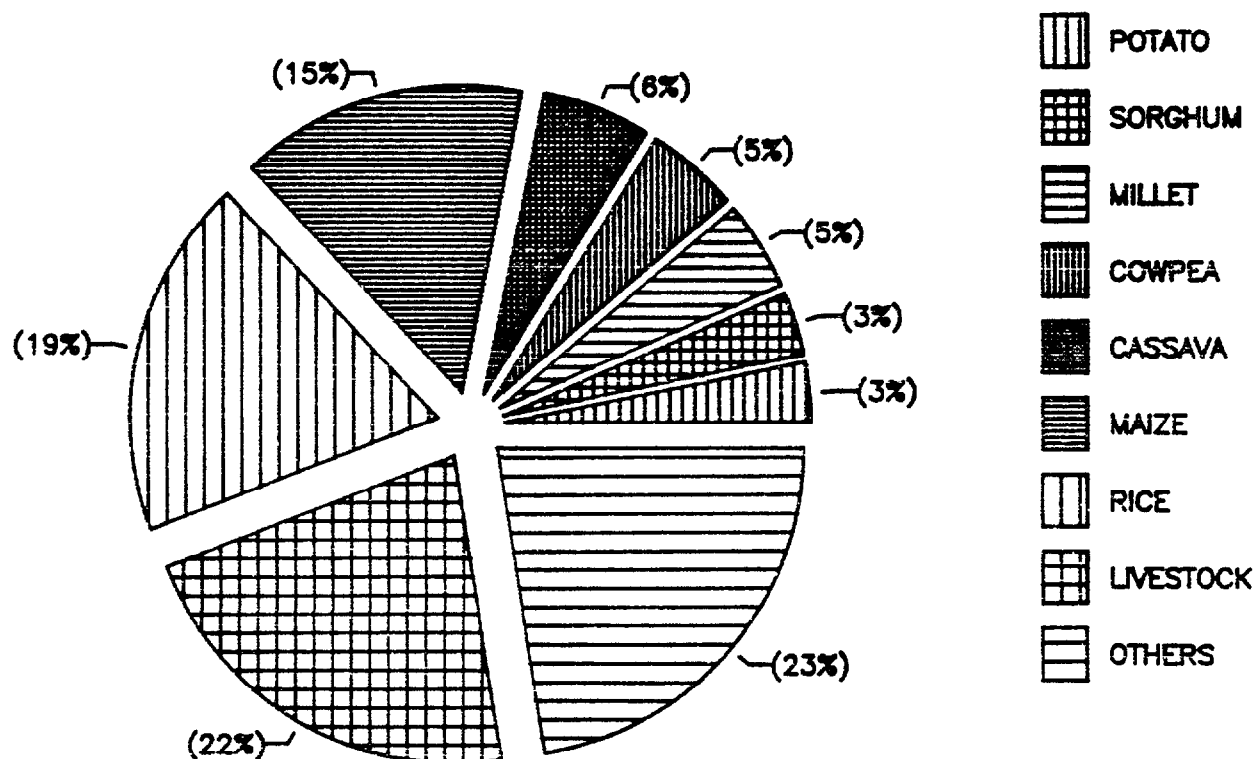
In financial terms, the CGIAR System has a core budget of only US\$ 199 million. This is increased to \$243 million with the addition of extra-core and Special Project funds. The budgets for individual Centers range from a low of approximately \$4.6 million to a maximum of \$23.3 million.

While the mandates of the individual Centers are quite specific, the activities of the CGIAR System remain extraordinarily varied and complex. In Sub-Saharan Africa alone, the CGIAR system must deal with 41 countries and over 40 commodities. Similar situations exist for the other major regions of the developing world. The range of services that the Centers perform is also broad (see, for example, the list of Activity codes in Annex III). Thus, as each Center sets its program priorities in response to internal constraints, external needs, and donor interests, the limited resources are spread over many activities. This is particularly evident when examining CGIAR resource allocation to Sub-Saharan Africa from three viewpoints: by commodity, by function, and by country.

A. By Commodity: More than 40 individual commodities are the subject of CGIAR efforts. In many cases, mixes of these individual commodities are also targeted. The major food crops -- livestock, maize, rice, and cassava -- receive the most emphasis. Two Centers, ILCA and ILRAD, specifically target livestock, although from different perspectives.

Person/Months on Commodity-Based Activities

Total PMS on Commodities = 4436



CGIAR Inventory (1986) - Graph 2

Graph 2 summarizes the person months of effort targeted at the major commodities. As is to be expected given the limited resources, the increasingly strict priorities of the Centers, and the large range of

commodities targeted, certain commodities receive only minor effort. Eight commodities receive over 75 percent of all of the efforts of the Centers. Even within the major eight commodities, large differences exist. For instance, livestock receives seven times more effort than potato. The remaining 25 percent, 2373 person months, is spread between 32 different commodities. This data is presented in detail in Table 2. In addition to the major commodities reported in Table 2, there exists within the CGIAR a fundamental concern with conserving the natural resource base of the agricultural environment.

There are certain areas of potential overlap among the Centers in their targeted commodities, most notably rice, which is within the mandate of three Centers working in Africa -- IRRI, WARDA, and IITA. Other areas of potential duplication of effort are sorghum, millet, and cassava. Table 2 reveals five Centers working on rice (IBPGR, IFPRI, IITA, IRRI, and WARDA). Four Centers conduct activities targeting millet in Sub-Saharan Africa (IBPGR, ICRISAT, IFPRI, and IITA). Four Centers also work on cassava (CIAT, IBPGR, IFPRI, and IITA) and sorghum (IBPGR, ICRISAT, IFPRI, and IITA).

Reference to the two following sections, Tables 4 and 8, and the listing of individual activities by Center in Annex VI reveals, however, that these Centers work in different locations and functional areas. While, in most cases, the Centers' research is complementary rather than competitive, there may exist some opportunity for greater consolidation and coordination of efforts.

B. By Function: The function of CGIAR activities in Sub-Saharan Africa is described in this inventory by two methods.

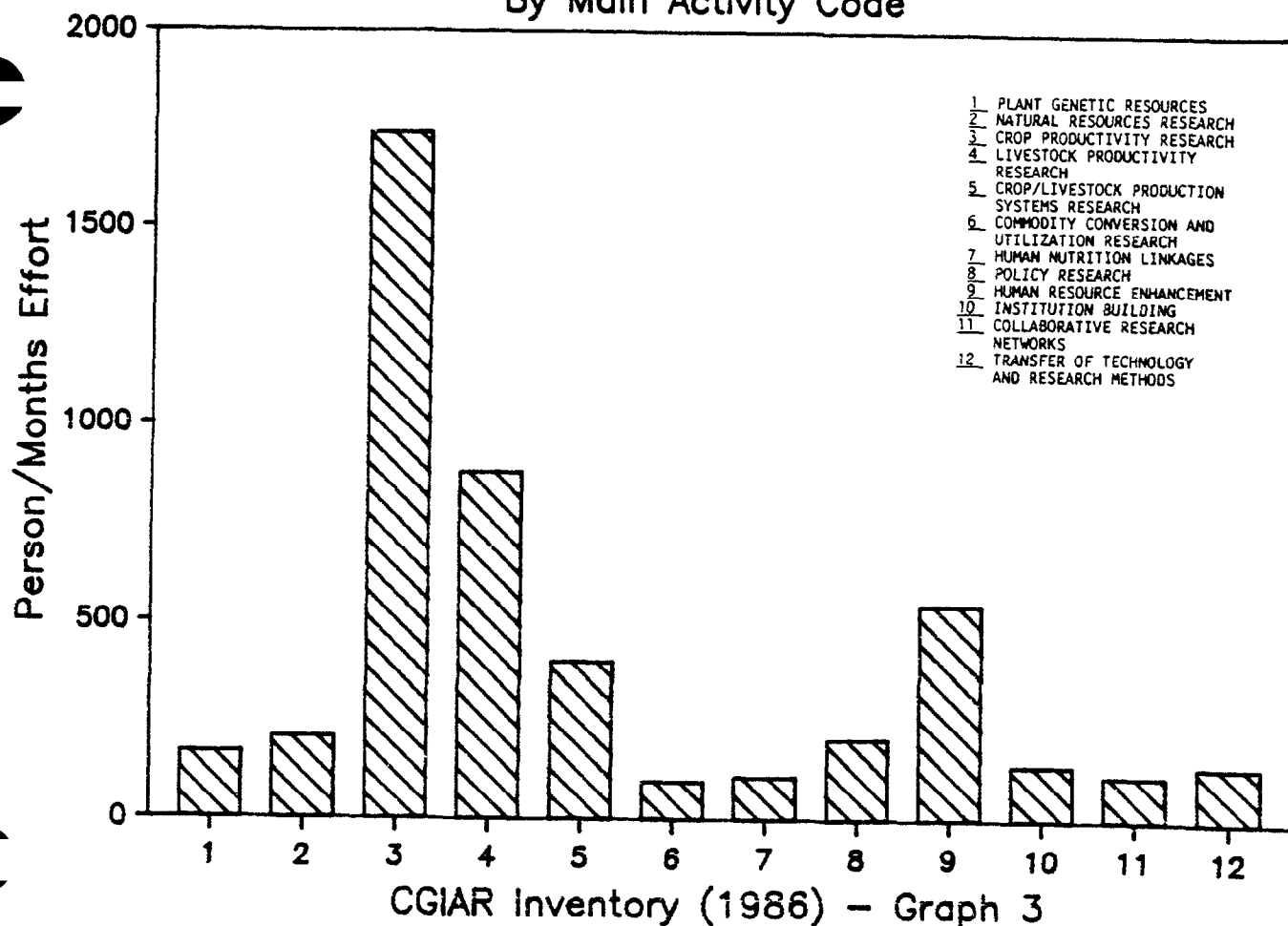
1) The Activity Code, a description of the focus or objective of the activity. A list of the Activity Codes used in this study is included in Annex III. This list is a consolidation of the 28 activities identified by the Technical Advisory Committee (TAC) for budgetary purposes in 1986.

2) The Operational Method of the Activity. Operational Methods refer to the general approaches or techniques used by the Centers to conduct the activity. The main operational methods are:

- Research
- Training
- Advisory Services
- Technical Assistance
- Conferences and Seminars
- and other Information Dissemination.

Graphs 3 and 4, which indicate the allocation of person months effort of the Centers to the various activity codes and operational methods, summarize the situation well.

Person/Months Effort by IARC's in Sub-Saharan By Main Activity Code

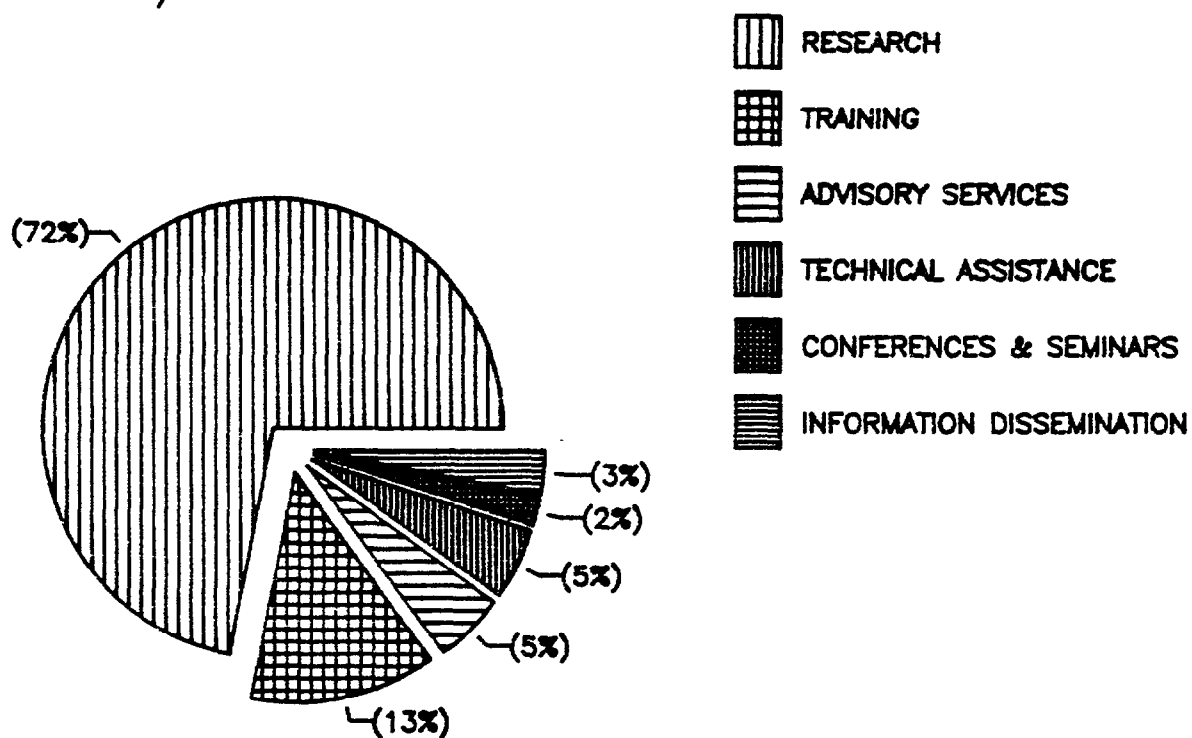


Graph 3 indicates the overall functional emphasis of the CGIAR System in Sub-Saharan Africa. Of the 4747 person months devoted to Sub-Saharan Africa by the CGIAR Centers, the largest fraction, 37 percent (1740 person months), is devoted to Crop Productivity Research. These activities range from Germplasm Enhancement and Seed Production to Plant Nutrition and Protection. The second major part, 18.4 percent, of the CGIAR System's resources is devoted to Livestock Productivity Research. The only significant contributors here are ILCA and ILRAD. The third largest fraction, 11.5 percent or 543 person months, is devoted to strengthening NARS through Human Resource Enhancement, largely training. Of course, individual Centers devote varying fractions of their resources to Human Resource Enhancement, as dictated by their mandates. The next largest area of CGIAR efforts is Crop/Livestock Production Systems. This receives 3.4 percent of the Centers' resources.

The remaining 24.7 percent of the Centers' resources devoted to Sub-Saharan Africa, less than 1170 person months, is spread fairly evenly between 8 different functions. Transfer of Technology, Policy Research,

Institution Building, Human Nutrition Linkages, Natural Resources Research, Plant Genetics Resources, and Commodity Conversion and Utilization each receive less than 210 person months of effort per year. Table 3 presents this information broken down for each of the 50 Activity sub-codes.

PERSON/MONTHS BY OPERATIONAL METHOD



CGIAR Inventory (1986) – Graph 4

Graph 4 presents a summary of the operational methods or techniques through which the Centers carry out the reported activities in Sub-Saharan Africa. The graph reveals the primary emphasis on research and training by the Centers. For the whole CGIAR System, the person months allocated to Sub-Saharan activities are divided among operational methods in the following manner:

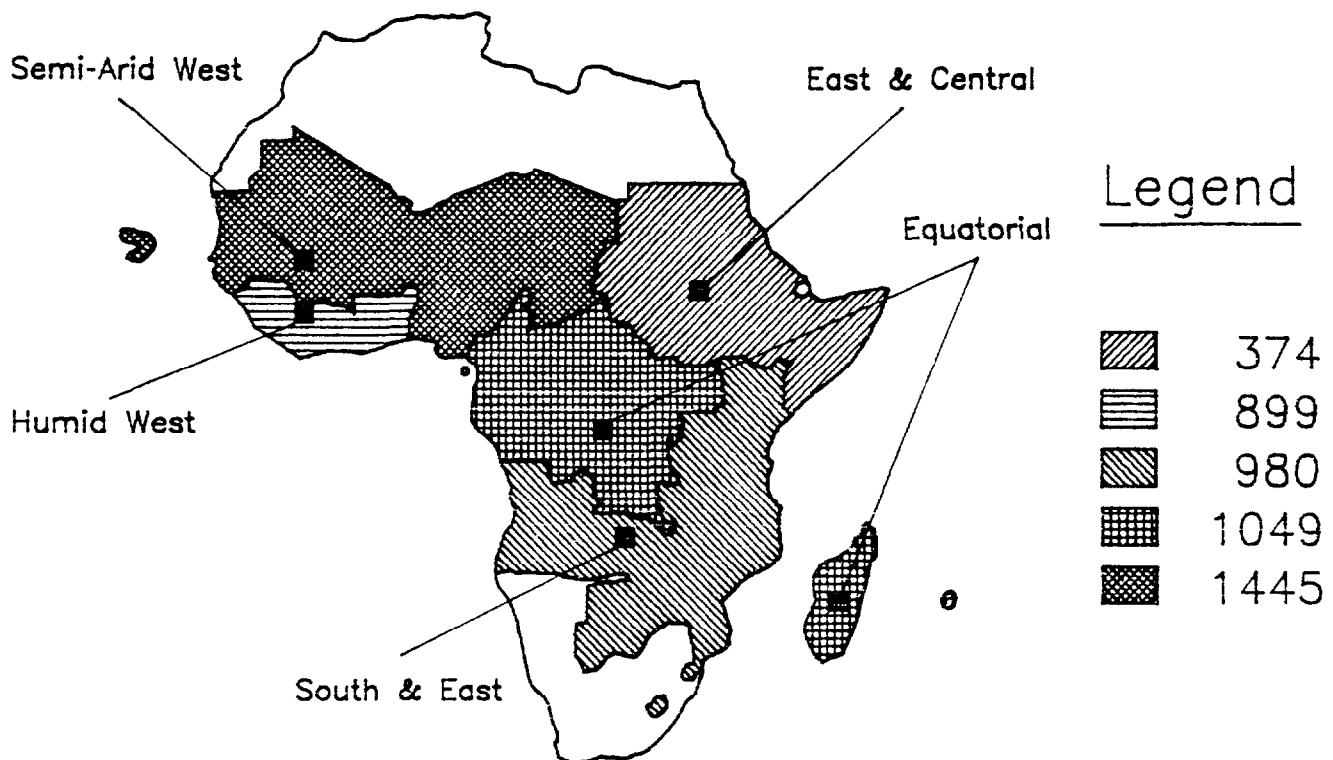
Research	3430	Person months
Training	631	
Advisory Services	221	
Technical Assistance	213	
Conferences/Seminars	84	
Information Dissemination	158	

The operational method used will vary according to the nature of the activity being conducted and the approach of the Center involved. Overall, Natural Resources Research activities show the highest percentage of research as a method, 96 percent. Human Nutrition Linkages show the highest training component, 18 percent (with the exception of Human

Resource Enhancement which is, by definition, training). Institution Building shows the highest rates of Technical Assistance, 16 percent, and the lowest rates of Research, 14 percent. The detailed data of person months effort in Sub-Saharan Africa broken down by operational method is presented in Table 4.

C. By Country: The Centers work in all countries considered as Sub-Saharan Africa by TAC (see List of Countries in Sub-Saharan Africa, Annex IV). Five of the Centers, IITA, ILRAD, WARDA, ILCA, and ICARDA, are based in Africa. ICRISAT, CIP and CIMMYT have regional sub-centers in various countries in Africa. Additionally, the CGIAR Centers have 140 staff members posted in the countries.

Person/Months Targeted to TAC Regions



Graph 5

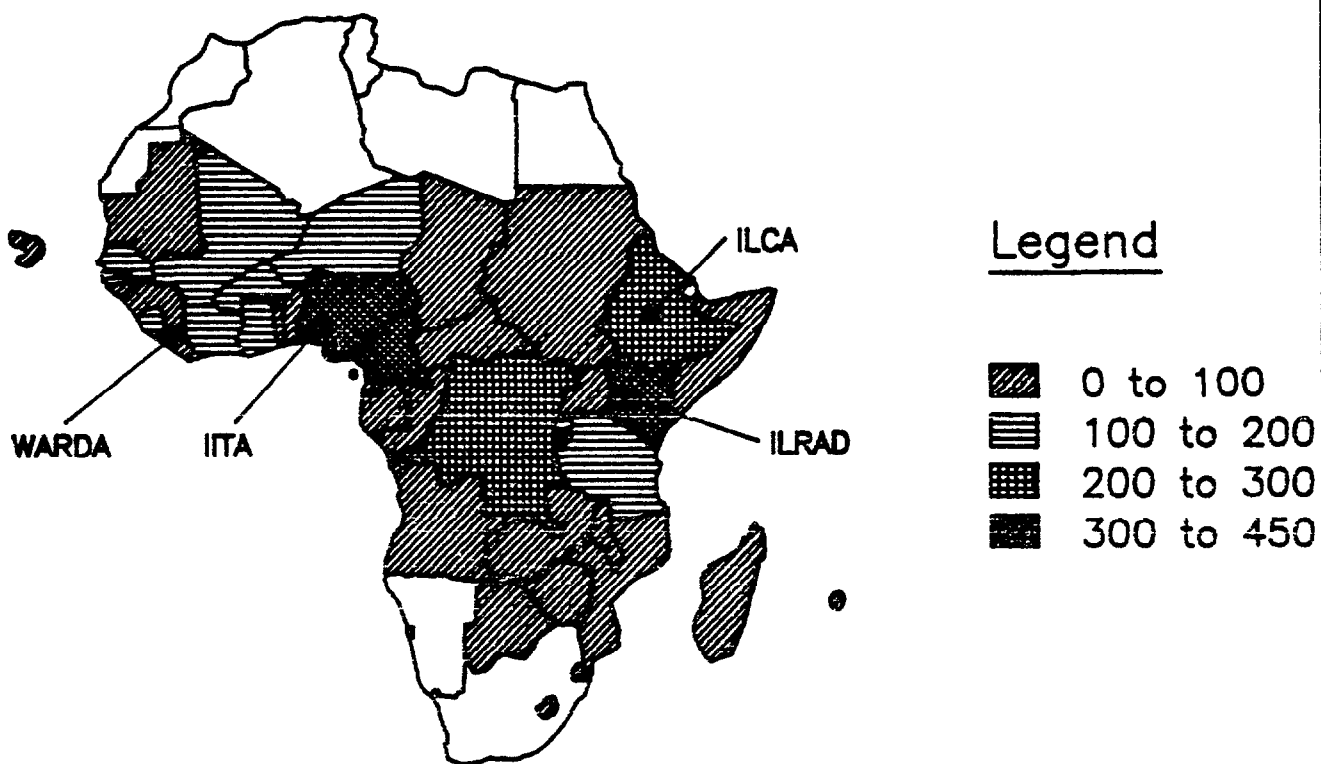
CGIAR SSA Inventory (1986)

Graph 5, a map of Sub-Saharan Africa, provides a first look at CGIAR activities in Sub-Saharan Africa aggregated into the 5 regions identified by TAC. These are: East/South Africa, Equatorial Africa, Humid West Africa, Semi-Arid West Africa, and East and Central Africa. (A list of the countries included in each region is included in Annex IV) The

legend presents the combined person months of effort targeted by the CGIAR Centers to each of the TAC regions.

The next map, Graph 6, summarizes the resources, in person months, targeted by the CGIAR Centers to each of the individual countries in Sub-Saharan Africa. When an activity is reported as benefiting one of the TAC regions or the whole of Sub-Saharan Africa, the person months effort has been allocated, in equal portions, to the countries in that region. It should be noted that the reallocation of regional activities may result in the appearance of certain Centers working in countries where they have no presence. Tables 5, 6, and 7, are therefore given in both forms; redistributed and not redistributed.

Person/Months to Targeted Country



Graph 6

CGIAR SSA Inventory (1986)

In Graph 6 the countries have then been grouped into 4 broad ranges representing increasing levels of person months effort by the Centers. This information, on a country by country basis, is also presented in Table 6.

2. There is a high degree of collaboration between the Centers and the National Agricultural Research Systems.

The Centers were requested to report instances of significant collaboration for those activities involving work with other institutions. The other types of institutions considered were:

- National Agricultural Research Institutions (NARI)
- Other National Institutes
- Non-CGIAR Centers
- Universities
- Other CGIAR Centers
- Bilateral Donor Executing Agencies
- Multilateral Donor Executing Agencies
- Private Sector Organizations

Recognizing the difficulty of objectively and consistently quantifying 'significant' collaboration between organizations, the Centers were asked to prorate the contribution of each of the collaborating organizations to the four main phases of the joint activities; design, execution, analysis, and evaluation.

The results of this analysis are presented in 13 tables, one for each Center; Tables 12-A through 12-M. These tables indicate the degree of collaboration of the Centers with the NARS, Universities, and other CGIAR Centers involved in each Center's Sub-Saharan Africa activities.

For each Center, the table presents the degree of collaboration in each of the four phases of activities by Activity code. The percentages in each column refer to the reported fraction of work done by each of the collaborating institutions in each of the four phases. If the Center reports that it conducts 100 percent of all work in all four phases, the activity is considered to not involve any collaboration. Obviously, the Centers report varying degrees of collaboration. This variation reflects actual differences in the degree of collaboration and, also, the differing interpretations of 'significant'.

The vast majority of collaboration occurs between the Center, the NARIs, and other CGIAR Centers. The highest reported collaboration with NARIs seems to be reported by those Centers not located in Africa. CIP, CIMMYT, IBPGR, and IFPRI show relatively higher degrees of collaboration than the Centers based in Africa. ICRISAT's Sahelian Center gives it the characteristics of an Africa-based Center. IRRI, although based outside of Africa reports a relatively low degree of NARI collaboration in the four research phases. Technical, institutional, and geographical factors all play a role in determining the degree of collaboration.

Concerning the four phases of research within activities, the Centers conduct more of the Design and Evaluation phases themselves and show higher rates of collaboration by NARIs in the Execution and Analysis phases of the activities. ILCA and WARDA reverse this general trend showing relatively higher rates of Center participation in the Execution and Analysis phases, indicating perhaps a support role to what are basically national activities.

Collaboration between the Centers and Universities is still not very high. Greater involvement between the Centers and Universities is perhaps desirable given Africa's needs and the increasing interest of donors in combining support to research and higher education.

3. Collaboration among CGIAR Centers is significant and can be increased.

Collaboration among Centers in the CGIAR System is significant. As noted above, activities conducted by those Centers not based in Africa report higher degrees of collaboration with African-based Centers. This collaboration allows the expertise of those Centers to be applied to Africa quickly. In general, the smaller Centers report higher rates of collaboration than the larger Centers. This is most evident with those Centers working on similar commodities; WARDA, IITA, and IRRI on rice and ILRAD and ILCA on livestock.

This collaboration is particularly important in those cases where two or more Centers are working on the same commodity in the same Activity Code or location. Effective collaboration will avoid duplication of effort and inappropriate competition for scarce financial and human resources. Tables 12-A through 12-M, in conjunction with Table 3, showing person months devoted to commodities by Centers, allow a realistic appraisal of the extent of collaboration and identification of those areas where more could occur.

4. Training, recognized as essential to strengthen National Agricultural Research Systems, has become an important part of the CGIAR System's activities in Sub-Saharan Africa.

Human Resource Enhancement, including all aspects of training, is a major task of all the Centers. This topic is examined in two ways in this study. The first is through the activity codes which define the major focus of the activities reported. From this perspective, the Centers devote 12% of their efforts in Sub-Saharan Africa to activities designed for Human Resource Enhancement. The Centers report a total of 3297 participants from Africa in their training activities. Approximately 60 percent of these people were trained at the Center headquarters and virtually all of the remaining 40 percent were trained in the targeted countries.

Secondly, many of the Centers' other activities involve training as an operational method even if the primary focus is, for example, Crop Productivity Research. Over 14 percent of the activities reported in this survey are carried out through training. This provides an extremely important method for transferring expertise from the Centers to the NARS Systems. The close correlation of these two measures of training indicate well defined priorities by the Centers as well as consistent data collection.

Table 4-a examines the operational methods used by the Centers to conduct their activities in Sub-Saharan Africa. In general, the highest rates of training occur in the defined areas of Center expertise; Crop and Livestock Productivity Research, Natural Resources Research and Human Nutrition Linkages. The lowest rates of training are in Commodity Conversion and Utilization Research, and Institution Building and Policy Research. (See Graph 3, column 9, for a concise summary of the person months devoted to training by all of the Centers.).

Table 9 breaks down the person months targeted at specific countries by operational method. Malawi and Tanzania show the highest percentages of training although Kenya and Ethiopia show higher absolute levels of effort by the Centers in training activities.

5. A high proportion of CGIAR Center activities in Sub-Saharan Africa are supported through special project funding.

More than 42 percent of the Centers activities in Sub-Saharan Africa are supported through non-core funding. This reveals one of the key strengths of the CGIAR System. Special project funding gives the Centers the flexibility to respond quickly to identified problem areas. In turn, the stability of core funding provides the long-term sustained commitment that successful agricultural research requires. These two funding mechanisms help create a stable research environment while maintaining a highly responsive System.

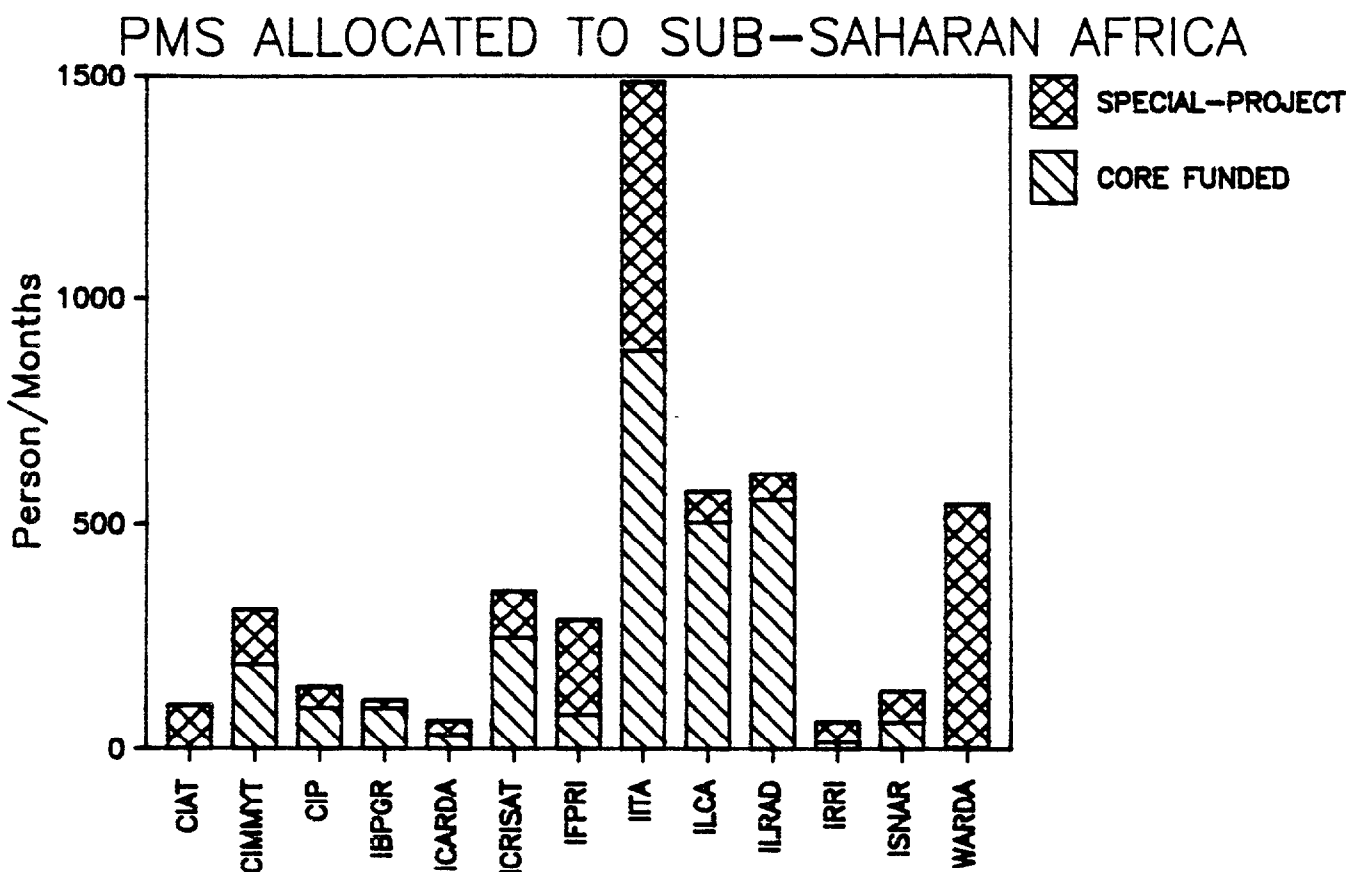
The differences between Centers further emphasizes this funding philosophy. Those Centers with Sub-Saharan Africa mandates or Sub-Centers in Africa support a higher proportion of their activities in Sub-Saharan Africa from core funds. Those Centers with no long-term research programs based in Africa have responded to the needs of Africa through Special Project funded activities, leaving their main research programs intact. Centers, then, can fulfill their mandates through core funding and attack new problems with Special Project funding. Increased donor concern with Africa will hopefully find an expression in an increased level of funding for the system and not a diversion of funding from other regions.

Listing the Centers by percentage of Sub-Saharan African activities funded through special projects makes this quite clear. (WARDA is not included due to its unique funding situation.)

Center	% of SSA Activities funded through Special Project	Center HQ or Sub-Center in SSA
CIAT	100%	NO
IRRI	75%	NO
IFPRI	73%	NO
ISNAR	54%	NO
ICARDA	50%	NO
IITA	41%	YES
CIMMYT	39%	YES
CIP	34%	YES
ICRISAT	29%	YES
IBPGR	16%	NO
ILCA	12%	YES
ILRAD	9%	YES

The advantages of this funding mechanism are many, and the Center Directors are taking care to ensure that Centers, whose roles are clearly separated by their mandates, do not engage in overlapping activities through Special Project activities.

Graph 7 shows the person months each Center devotes to activities in Sub-Saharan Africa broken down into core-funded person months and extra-core funded person months.

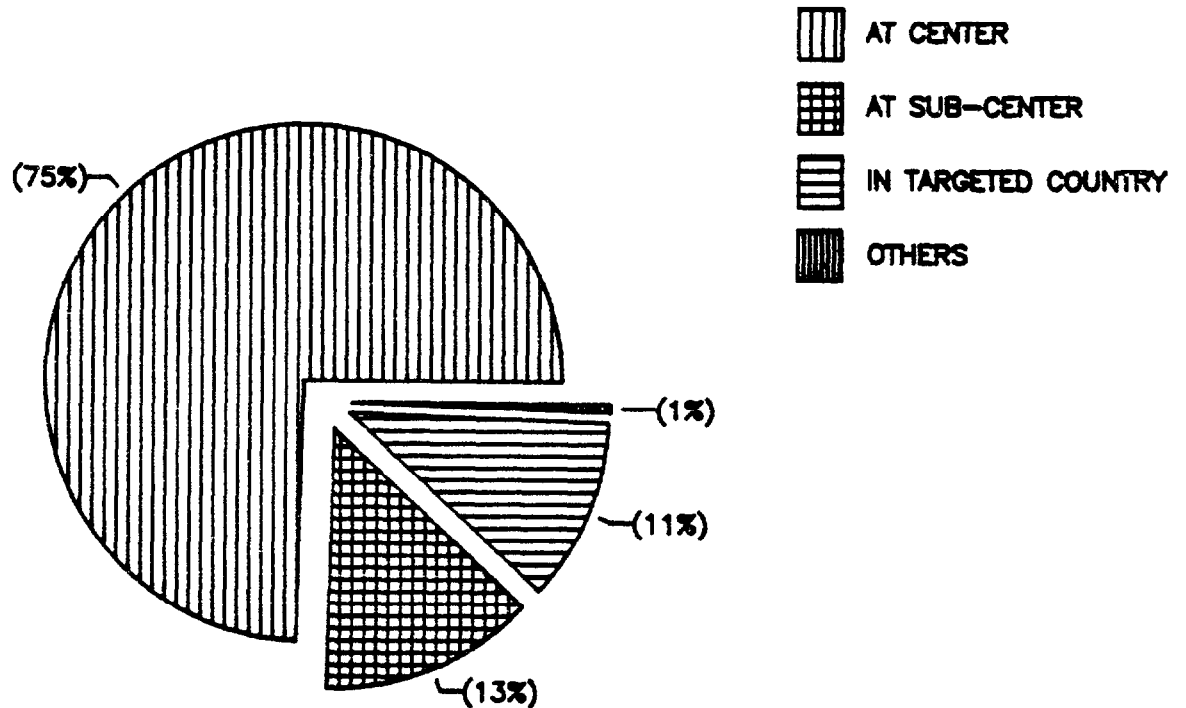


CGIAR Inventory (1986) - Graph 7

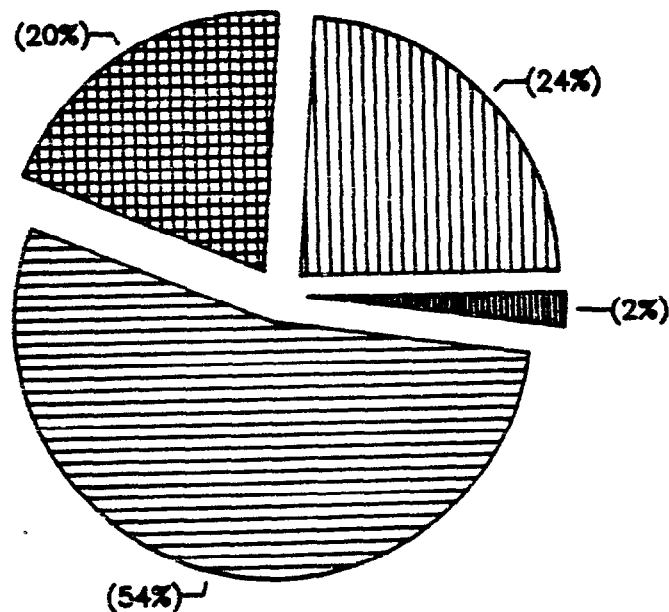
Table 10 lists the donors for the activities reported by the Centers. For purposes of comparison, each Center is also considered a donor for any activity that is core-funded. Thus the 13 Centers are listed as the first 13 donors. The person months funded by each donor are broken down by location; at Center Headquarters, At Sub-Center, In the Targeted Country, or Other Locations.

The location of the person months funded by the donors, as a group, is summarized in Graph 8. Relative to the core-funding of the Centers, extra-core funding is targeted at in-country activities.

LOCATION OF PMS BY FUNDING SOURCE



CORE FUNDED PERSON/MONTHS



SPECIAL PROJECT FUNDED PERSON/MONTHS

FINAL OBSERVATIONS

The creation of this first detailed inventory of the activities of the CGIAR Centers in Sub-Saharan Africa has been a time-consuming but worthwhile exercise. This study reflects the interest of the Center Directors in ensuring an effective use of resources available to the CG System in Africa. It grew out of an external concern that the rapid response to donor interest in Africa could create overlapping activities, duplication of effort, and competition for funds. Similarly, Center Directors were concerned that the System's resources be used to address the most pressing needs and that the division of labor with the national systems be appropriate. It was decided that an objective assessment of the Centers' present activities in Sub-Saharan Africa was important to their own coordinating efforts and to increasing the understanding of their activities among those outside of the Centers.

Provision of the basic data required the cooperation of individual scientists and the support of management of the various Centers. The response was gratifying.

There are several products of this exercise:

- a) Information on activities, resource commitments, and patterns of operation of the Centers which constitutes a permanent baseline for future studies;
- b) Software for management, sharing, and analysis of the data; and
- c) Analysis of the Centers' individual and collective activities in Sub-Saharan Africa in 1986.

The principal findings describe a system which responds to a variety of needs, covers a wide geographical area, includes a large number of commodities in its work, but manages to keep its activities focused on the key commodities. With donor support, the Centers have responded to the serious problems of African agriculture. Special project funding has been the vehicle for bringing the non African-based Centers into Africa in collaboration with national research institutes and other CG Centers. Special project funding has also served to bring the Centers closer to the national systems, since the majority of senior staff time funded by special projects is located in targeted countries or regional sub-centers. The Centers carry out their activities primarily in collaboration with national agricultural research institutes but also collaborate with national universities and each other. The detailed inventory does not give evidence of duplication of effort or competition among Centers. Finally, the vast majority of their resources are concentrated on commodity improvement, but they also provide training to professionals from the NARS. This focus is part of the build-up of the capacity of national agricultural research systems, an important function which is helped through direct institution-building efforts. These are complemented by a third focus which deals with improving the policy environment for research.

ANNEX I

CGIAR ACTIVITY INVENTORY TABLES (1986)

LIST OF TABLES

TABLE 1

SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY IARCS

TABLE 2

SENIOR STAFF PERSON MONTHS BY COMMODITY AND BY CENTER

TABLE 3

SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY CENTER AND BY TYPE OF ACTIVITY

TABLE 4

SENIOR STAFF PERSON MONTHS BY ACTIVITY CODE AND BY OPERATIONAL METHOD

TABLE 5

SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY CENTER

TABLE 6

SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY CENTER

TABLE 7

SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY ACTIVITY CODE

TABLE 8

SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY ACTIVITY CODE

TABLE 9

SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY OPERATIONAL METHOD

TABLE 10

SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR AND BY LOCATION

TABLE 11

SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR IN EACH COUNTRY

TABLE 12

COLLABORATIVE ACTIVITIES BY CENTER

TABLE 1

SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY IARCS

Table 1 reports senior staff person months devoted to activities in or for Sub-Saharan Africa by the CGIAR Centers for 1986. The person months are further broken down into those that are funded from non-core monies and those that are funded directly from core budgets. When viewed against the total available person months, the data serve as a measure of the IARCs' commitment of resources to Sub-Saharan Africa. It should be noted that this data is for 1986 only, and may be subject to change in the future.

TABLE 1: SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY IARCs

	TOTAL AVAILABLE PMS	TOTAL PERSON MONTHS DEVOTED TO SSA	CORE FUNDED PERSON MONTHS	CORE-FUNDED PERCENT	SPECIAL PROJECT PERSON MONTHS	SPECIAL PROJECT PERCENT
CIAT	1080	97.00	-	0	97.00	100
CIMMYT	1040	308.00	187.50	61	120.50	39
CIP	600	136.69	90.75	66	45.94	34
IBPGR	250	107.23	89.93	84	17.30	16
ICARDA	732	61.80	31.18	50	30.62	50
ICRISAT	744	350.60	247.22	71	103.38	29
IFPRI	648	286.00	75.87	27	210.13	73
IITA	1528	1487.50	884.03	59	603.50	41
ILCA	571	570.50	504.03	88	66.47	12
ILRAD	610	61.00	554.00	91	56.00	9
IRRI	800	59.96	14.80	25	45.16	75
ISNAR	240	127.74	59.19	46	68.55	54
WARDA	600	544.01	2.70	0	541.31	100
TOTAL	9443	4747	2741		2006	

TABLE 2

SENIOR STAFF PERSON MONTHS BY COMMODITY AND BY CENTER

Table 2 lists the commodities reported as the focus of IARC activities in Sub-Saharan Africa. For each commodity the table lists the effort, in person months of senior staff, that each Center targets on that commodity. The table is useful for identifying possible overlap of Center efforts on specific commodities. As is to be expected, the major food crops are the subject of most of the CGIAR's effort in Sub-Saharan Africa. This strong emphasis on the major food crops results in the other 32 commodities receiving only 25% of the CGIAR's effort.

TABLE 2: SENIOR STAFF PERSON MONTHS BY COMMODITY AND BY CENTER

COMMODITY	CIAI	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTAL
BAMBARA GINUBBY/														
MINOR LEGUMES	-	-	-	-	-	-	-	5.85	-	-	-	-	-	5.8
BANANA	-	-	-	0.15	-	-	-	10.08	-	-	-	-	-	10.2
BARLEY	-	-	-	-	6.32	-	-	-	-	-	-	-	-	6.3
CASSAVA	3.00	-	-	0.51	-	-	6.46	240.82	-	-	-	-	-	250.8
CEREAL CROPS	-	-	-	4.99	-	-	-	59.94	-	-	-	-	-	64.9
CHICKPEA	-	-	-	-	5.50	5.40	-	-	-	-	-	-	-	10.9
COCONUT	-	-	-	12.20	-	-	-	-	-	-	-	-	-	12.2
COCOYAM	-	-	-	-	-	-	-	9.68	-	-	-	-	-	9.7
COMMON BEANS	94.00	-	-	-	-	-	3.00	-	-	-	-	-	-	97.0
COWPEA	-	-	-	1.02	-	13.97	-	202.76	-	-	-	-	-	217.7
EGGPLANT	-	-	-	6.70	-	-	-	-	-	-	-	-	-	6.7
FABA BEAN	-	-	-	-	24.70	-	-	-	-	-	-	-	-	24.7
FALLOW SPECIES	-	-	-	-	-	-	-	11.52	-	-	-	-	-	11.5
FORAGES	-	-	-	20.12	4.50	-	-	-	64.00	-	-	-	-	88.6
GRAIN LEGUMES	-	-	-	2.25	-	-	-	84.85	-	-	-	-	-	87.1
GROUNDNUT	-	-	-	-	-	35.61	6.75	-	-	-	-	-	-	42.4
HORTICULTURAL CROPS	-	-	-	4.02	-	-	-	-	-	-	-	-	-	4.0
LENTIL	-	-	-	-	5.00	-	-	-	-	-	-	-	-	5.0
LIVESTOCK	-	-	-	-	4.50	-	8.70	-	430.50	518.00	-	-	-	961.7
MAIZE	-	241.75	-	-	-	-	80.19	349.82	-	-	-	-	-	671.8
MILLET	-	-	-	7.77	-	172.29	15.50	8.70	-	-	-	-	-	204.3
OKRA	-	-	-	6.25	-	-	-	-	-	-	-	-	-	6.3
P. BEAN	-	-	-	-	-	-	-	1.73	-	-	-	-	-	1.7
PIGEON PEA	-	-	-	-	-	5.40	-	0.48	-	-	-	-	-	5.9
PLANTAIN	-	-	-	-	-	-	0.52	48.25	-	-	-	-	-	48.8
POTATO	-	-	136.69	-	-	-	3.00	-	-	-	-	-	-	139.7
RICE	-	-	-	4.07	-	-	26.70	204.24	-	-	58.16	-	544.01	837.2
ROOT & TUBER	-	-	-	0.76	-	-	-	66.99	-	-	-	-	-	67.7
SORGHUM	-	-	-	0.51	-	109.71	11.75	26.70	-	-	-	-	-	148.7
SOYBEAN	-	-	-	-	-	-	-	88.51	-	-	-	-	-	88.5
SUGAR CANE	-	-	-	-	-	-	45.50	-	-	-	-	-	-	45.5
SWEET POTATO	-	-	-	0.51	-	-	-	31.09	-	-	-	-	-	31.6
TEA	-	-	-	-	-	-	3.00	-	-	-	-	-	-	3.0
THEILERIOSIS	-	-	-	-	-	-	-	-	-	25.00	-	-	-	25.0
TRITICALE	-	-	-	-	0.10	-	-	-	-	-	-	-	-	0.1
TRYPANOSOMIASIS	-	-	-	-	-	-	-	-	-	49.00	-	-	-	49.0
WHEAT	-	66.24	-	-	9.98	-	8.00	-	-	-	-	-	-	84.2
WILDLIFE	-	-	-	-	-	-	-	-	-	18.00	-	-	-	18.0
WINGED BEAN	-	-	-	1.50	-	-	-	-	-	-	-	-	-	1.5
YAM	-	-	-	5.50	-	-	-	35.07	-	-	-	-	-	40.6
TOTAL	97	308	137	79	61	342	219	1487	495	610	58	-	544	4436

(304.5 pms reported with no targeted commodity)

TABLE 3

SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY CENTER AND BY TYPE OF ACTIVITY

This table disaggregates the person months committed to Sub-Saharan Africa by each Center into the 12 major activity codes. This information allows a comparison of the functional emphasis of each Center. The Major Codes 1 through 12 refer to the following activities:

- 1: Plant Genetic Resources
- 2: Natural Resources Research
- 3: Crop Productivity Research
- 4: Livestock Productivity Research
- 5: Crop/Livestock Production Systems Research
- 6: Commodity Conversion and Utilization Research
- 7: Human Nutrition Linkages
- 8: Policy Research
- 9: Human Resource Enhancement
- 10: Institution Building
- 11: Collaborative Research Networks
- 12: Transfer of Technology and Research Methods

More detailed information, person months effort by each Center on each of the 50 Activity sub-codes, is given in the second part of the table.

TABLE 3-a: SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY CENTER AND BY TYPE OF ACTIVITY

ACT. CODE	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTAL
1	-	-	3.21	107.23	-	-	-	27.51	-	-	-	-	30.00	167.90
2	-	-	-	-	1.20	18.00	-	66.85	18.00	-	-	-	104.01	208.10
3	67.40	149.50	57.14	-	35.30	261.00	-	906.93	16.00	-	22.56	-	224.00	1739.80
4	-	-	-	-	-	-	-	-	323.00	554.80	-	-	-	877.80
5	-	2.00	-	-	-	-	14.50	167.90	86.60	-	-	16.12	112.00	399.10
6	-	-	23.01	-	-	-	-	45.80	9.60	-	-	-	17.00	95.40
7	-	-	-	-	-	-	106.40	2.50	-	-	-	-	-	109.80
8	-	1.50	-	-	0.80	11.60	141.76	-	20.00	-	-	27.50	2.00	205.20
9	29.60	116.50	32.25	-	19.80	60.00	3.50	170.58	2.40	55.20	5.80	16.75	31.00	543.40
10	-	29.50	12.73	-	4.10	-	-	-	25.80	-	-	67.00	-	139.10
11	-	-	1.12	-	-	-	10.90	16.00	63.10	-	30.00	-	-	121.10
12	-	9.00	7.23	-	0.60	-	8.06	83.45	6.00	-	1.60	0.37	24.00	140.30
Total	97	308	137	107	62	351	285	1488	571	610	60	128	544	4747

TABLE 3-b: SENIOR STAFF PERSON MONTHS COMMITTED TO SUB-SAHARAN AFRICA BY CENTER AND BY TYPE OF ACTIVITY

ACTIVITY CODE	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTAL
1.0	-	-	3.21	107.23	-	-	-	27.51	-	-	-	-	30.00	167.9
2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1	-	-	-	-	-	7.80	-	40.00	-	-	-	-	24.00	71.8
2.2	-	-	-	-	-	1.80	-	22.85	-	-	-	-	26.00	50.7
2.3	-	-	-	-	0.96	6.96	-	-	14.40	-	-	-	-	22.3
2.4	-	-	-	-	0.24	1.44	-	4.00	3.60	-	-	-	54.01	63.3
3.0	64.40	-	-	-	1.00	-	-	-	-	-	7.56	-	-	73.0
3.1	-	134.00	14.49	-	19.35	130.24	-	495.79	-	-	15.00	0	58.00	866.9
3.2	3.00	-	14.05	-	1.95	57.56	-	186.90	-	-	-	-	42.00	305.5
3.3	-	-	-	-	13.20	-	-	45.80	16.00	-	-	-	16.00	91.0
3.4	-	15.50	14.55	-	13.00	60.00	-	170.20	-	-	-	-	84.00	357.2
3.5	-	-	14.05	-	-	-	-	8.24	-	-	-	-	24.00	46.3
4.0	-	-	-	-	-	-	-	-	165.00	74.80	-	-	-	239.8
4.1	-	-	-	-	-	-	-	-	18.00	480.00	-	-	-	498.0
4.2	-	-	-	-	-	-	-	-	50.00	-	-	-	-	50.0
4.3	-	-	-	-	-	-	-	-	36.00	-	-	-	-	36.0
4.4	-	-	-	-	-	-	-	-	54.00	-	-	-	-	54.0
5.0	-	-	-	-	-	-	-	-	66.60	-	-	-	-	66.6
5.1	-	-	-	-	-	-	-	78.00	-	-	-	-	-	78.0
5.2	-	-	-	-	-	-	-	3.30	-	-	-	-	-	3.3
5.3	-	-	-	-	-	-	-	21.60	-	-	-	-	18.00	39.6
5.4	-	2.00	-	-	-	-	14.50	65.00	20.00	0	0	16.12	94.00	211.6
6.0	-	-	-	-	-	-	-	-	-	-	-	-	17.00	17.0
6.1	-	-	12.16	-	-	-	-	5.10	-	-	-	-	-	17.3
6.2	-	-	6.30	-	-	-	-	29.70	9.60	-	-	-	-	45.6
6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.4	-	-	4.55	-	-	-	-	11.00	-	-	-	-	-	15.6
7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.1	-	-	-	-	-	-	105.80	2.50	-	-	-	-	-	109.2
7.2	-	-	-	-	-	-	0.60	-	-	-	-	-	-	0.6
8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.1	-	-	-	-	-	-	54.11	-	-	-	-	22.50	2.00	78.6
8.2	-	-	-	-	0.80	-	74.65	-	20.00	-	-	-	-	95.5
8.3	-	1.50	-	-	-	11.60	13.00	-	-	-	-	5.00	-	31.1
9.0	29.60	-	-	-	4.60	-	-	-	-	53.30	-	-	22.00	109.5
9.1	-	6.25	6.97	-	-	-	-	11.32	-	-	-	2.86	4.00	31.4
9.2	-	13.00	6.97	-	-	-	-	8.94	-	-	-	-	5.00	33.9
9.3	-	96.25	6.97	-	11.85	58.00	-	86.92	-	1.90	3.20	-	-	265.1
9.4	-	1.00	4.36	-	1.25	2.00	3.50	63.40	2.40	-	0.80	-	-	78.7
9.5	-	-	-	-	-	-	-	-	-	-	1.80	13.29	-	15.1
9.6	-	-	6.98	-	2.10	-	-	-	-	-	-	0.60	-	9.7
10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.2	-	29.50	6.41	-	4.10	-	-	-	14.40	-	-	50.77	-	105.2
10.3	-	-	6.32	-	-	-	-	-	11.40	-	-	16.23	-	34.0
11.0	-	-	1.12	-	-	-	10.90	16.00	63.10	-	30.00	-	-	121.1
12.0	-	-	-	-	0.20	-	-	-	-	-	-	-	-	0.2
12.1	-	9.00	2.73	-	-	-	6.00	24.05	-	-	-	0.37	-	42.1
12.2	-	-	1.45	-	-	-	-	16.20	-	-	1.60	-	16.00	35.2
12.3	-	-	3.05	-	0.40	-	2.06	43.20	6.00	-	-	-	8.00	62.7
TOTAL	97	308	137	107	62	351	285	1487	570	610	60	128	544	4747

TABLE 4

SENIOR STAFF PERSON MONTHS BY ACTIVITY CODE AND BY OPERATIONAL METHOD

Table 4 breaks the reported person months of effort in Sub-Saharan Africa down by major activity codes and by operational methods used to carry out those activities. Codes 1 through 12 refer to the following activities:

- 1: Plant Genetic Resources
- 2: Natural Resources Research
- 3: Crop Productivity Research
- 4: Livestock Productivity
Research
- 5: Crop/Livestock Production
Systems Research
- 6: Commodity Conversion and
Utilization Research
- 7: Human Nutrition Linkages
- 8: Policy Research
- 9: Human Resource Enhancement
- 10: Institution Building
- 11: Collaborative Research
Networks
- 12: Transfer of Technology
and Research Methods

A detailed listing by Activity sub-codes is included as the second part of Table 4. Definitions of all codes are included in Annex III.

The second half of Table 4-a presents the same breakdown for the individual Centers.

TABLE 4-a: SENIOR STAFF PERSON MONTHS BY ACTIVITY CODE AND BY OPERATIONAL METHOD

ACT. CODE	RESEARCH	TRAINING	ADVISORY SERVICES	TECHNICAL ASSISTANCE	CONFERENCES & SEMINARS	INFORMATION DISSEMINATION	TOTAL
1	94.96	6.47	11.72	47.26	3.79	3.76	168
2	198.72	5.28	0.57	2.40	0.97	0.12	208
3	1542.47	49.01	41.38	67.41	26.09	13.49	1740
4	794.69	19.43	25.70	25.70	1.80	10.50	878
5	333.84	29.41	11.38	10.18	8.31	5.99	399
6	77.43	7.68	3.20	5.81	0.08	1.25	96
7	89.42	19.34	-	-	-	1.0	110
8	164.67	23.50	10.07	1.08	2.00	3.84	205
9	44.83	445.82	15.29	16.71	3.15	17.58	543
10	20.00	7.56	83.35	23.64	1.99	2.65	139
11	60.22	16.73	8.97	11.68	8.47	15.07	121
12	16.34	2.00	9.04	1.63	27.72	83.54	140
TOTAL	3438	632	221	213	84	159	4737

SENIOR STAFF PERSON MONTHS BY CENTER AND BY OPERATIONAL METHOD

CENTER	RESEARCH	TRAINING	ADVISORY SERVICES	TECHNICAL ASSISTANCE	CONFERENCES & SEMINARS	INFORMATION DISSEMINATION	TOTAL
CIAT	35.00	14.80	12.80	29.20	3.80	1.40	97.00
CIMMYT	153.00	101.25	35.75	-	9.00	9.00	308.00
CIP	51.90	34.15	12.92	29.39	0.75	7.59	136.69
IBPGR	36.41	5.60	11.40	46.62	3.60	3.60	107.23
ICARDA	14.99	19.32	11.22	8.96	2.80	4.52	61.80
ICRISAT	290.60	60.00	-	-	-	-	350.60
IFPRI	237.48	44.98	-	-	-	3.55	286.00
IITA	1148.70	172.17	27.92	39.13	43.18	56.41	1487.52
ILCA	397.45	34.25	42.25	40.05	17.45	39.05	570.50
ILRAD	554.80	55.20	-	-	-	-	610.00
IRRI	29.75	20.95	0.75	0.85	3.05	4.61	59.96
ISNAR	32.50	16.75	58.45	19.30	0.74	-	127.74
WARDA	455.01	52.80	7.20	-	-	29.00	544.01
TOTAL	3438	632	221	213	84	159	4737

TABLE 4-b: SENIOR STAFF PERSON MONTHS BY ACTIVITY CODE AND BY OPERATIONAL METHOD

ACTIVITY CODE	RESEARCH	TRAINING	ADVISORY SERVICES	TECHNICAL ASSISTANCE	CONFERENCES & SEMINARS	INFORMATION DISSEMINATION	TOTAL
1.0	94.96	6.47	11.72	47.26	3.79	3.76	168.0
2.0	-	-	-	-	-	-	0.0
2.1	66.64	4.80	0.12	0.12	-	0.12	71.8
2.2	49.35	-	0.33	-	0.97	-	50.6
2.3	20.02	0.38	0.10	1.82	-	-	22.3
2.4	62.71	0.10	0.02	0.46	-	-	63.3
3.0	23.15	16.25	8.79	20.39	2.69	1.69	73.0
3.1	792.41	10.21	17.18	23.59	17.31	6.15	866.8
3.2	289.64	4.71	1.87	3.65	3.62	1.98	305.5
3.3	84.57	0.50	2.10	2.10	1.73	-	91.0
3.4	326.27	6.58	6.42	14.47	0.66	2.86	357.3
3.5	26.43	10.76	5.02	3.21	0.08	0.79	46.3
4.0	195.69	8.43	15.60	9.60	0.90	9.60	239.8
4.1	490.80	3.60	0.90	0.90	0.90	0.90	498.0
4.2	35.00	5.00	5.00	5.00	-	-	50.0
4.3	32.40	-	1.80	1.80	-	-	36.0
4.4	40.80	2.40	2.40	8.40	-	-	54.0
5.0	44.70	3.84	6.66	4.74	2.88	3.78	66.6
5.1	70.78	1.67	0.97	4.37	-	0.21	78.0
5.2	3.30	-	-	-	-	-	3.3
5.3	35.14	-	3.60	-	0.86	-	39.6
5.4	179.92	23.90	0.15	1.07	4.57	2.00	211.6
6.0	17.00	-	-	-	-	-	17.0
6.1	9.61	3.11	1.14	2.63	0.08	0.70	17.3
6.2	37.93	3.50	1.60	2.27	-	0.32	45.6
6.3	-	-	-	-	-	-	0.0
6.4	12.89	1.07	0.46	0.91	-	0.23	15.6
7.0	-	-	-	-	-	-	0.0
7.1	88.42	19.34	-	-	-	1.0	109.2
7.2	0.60	-	-	-	-	-	0.6
8.0	-	-	-	-	-	-	0.0
8.1	63.65	7.45	7.00	-	-	0.50	78.6
8.2	73.87	15.85	0.32	0.08	2.00	3.34	95.5
8.3	27.15	0.20	2.75	1.00	-	-	31.1
9.0	13.17	81.47	4.15	9.07	1.17	0.49	109.5
9.1	6.52	15.97	6.93	1.58	0.03	0.38	31.4
9.2	2.52	14.73	0.67	1.58	0.03	14.38	33.9
9.3	13.32	245.50	1.45	1.58	1.67	1.57	265.1
9.4	6.14	70.04	0.79	1.11	0.22	0.38	78.7
9.5	-	15.09	-	-	-	-	15.1
9.6	3.16	3.02	1.30	1.79	0.03	0.38	9.7
10.0	-	-	-	-	-	-	-
10.1	-	-	-	-	-	-	-
10.2	11.97	4.84	76.50	9.92	0.83	1.16	105.2
10.3	8.03	2.72	6.85	13.72	1.16	1.49	34.0
11.0	60.22	16.73	8.97	11.68	8.47	15.07	113.0
12.0	0.14	0.01	0.02	-	0.01	0.02	0.2
12.1	12.42	0.68	0.52	0.67	27.61	0.23	42.1
12.2	0.47	0.40	8.21	0.32	0.04	25.81	35.2
12.3	3.31	0.91	0.29	0.64	0.06	57.48	62.7
TOTAL	3438	632	221	213	84	159	4747

TABLE 5

SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY CENTER

Table 5 reports the total person months effort by IARCs to the 5 major regions used by the Technical Advisory Committee of the CGIAR. Person months effort for each activity is allocated to the region encompassing the targeted country (as specified by the Center conducting the activity). In Table 5-a, person months targeted to the whole of Sub-Saharan Africa have been reallocated, on an equal share basis, to each country in Sub-Saharan Africa. These countries are then aggregated into the 5 regions. Table 5-b presents the same data in its original form (not redistributed) and so includes a sixth region - the whole of Sub-Saharan Africa.

TABLE 5-a: SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY CENTER (Redistributed)

REGION	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTAL
EAST/SOUTHERN AFRICA	11.47	171.19	46.27	17.57	-	85.43	152.35	169.40	133.34	147.27	16.65	34.99	-	985.90
EQUATORIAL AFRICA	74.85	3.43	63.49	25.61	-	23.03	37.31	558.11	34.79	151.80	17.02	43.89	-	1033.30
HUMID WEST AFRICA	0.51	48.25	1.40	34.80	-	43.74	21.82	267.94	12.98	100.09	20.21	5.23	345.09	902.10
SEMI-ARID WEST AFRICA	0.66	45.10	12.60	24.70	-	187.93	70.22	465.44	231.88	159.14	2.40	30.03	198.93	1429.00
EAST AND CENTRAL AFRICA	9.49	40.03	12.90	4.56	61.80	10.42	4.29	26.59	157.51	51.71	3.68	13.60	-	396.60
TOTAL	97	308	137	107	62	351	286	1487	571	610	60	128	544	4747

TABLE 5-b: SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY CENTER

REGION	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTAL
EAST/SOUTHERN AFRICA	10.74	171.19	46.27	17.57	-	68.45	150.89	125.23	114.80	18.00	16.65	32.25	-	772.0
EQUATORIAL AFRICA	74.05	3.43	63.49	25.61	-	4.36	35.70	509.52	14.40	9.60	17.02	40.87	-	798.1
HUMID WEST AFRICA	-	48.25	1.40	34.80	-	31.86	20.80	237.02	-	9.60	20.21	3.31	345.09	752.3
SEMI-ARID WEST AFRICA	-	45.10	12.60	24.70	-	172.65	68.90	425.69	215.20	42.80	2.40	27.56	198.93	1236.5
EAST & CENTRAL AFRICA	9.20	40.03	12.90	4.56	61.80	3.63	3.70	8.92	150.10	-	3.68	12.50	-	311.0
ALL SUB-SAHARAN AFRICA	3.00	-	-	-	-	69.60	6.00	181.10	76.00	530.00	-	11.24	-	876.9
TOTAL	97	308	137	107	62	351	286	1487	571	610	60	128	544	4747

TABLE 6

SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY CENTER

Table 6 disaggregates the information contained in Table 5 and presents the total person months targeted by the individual Centers at specific countries. In cases where activities were reported as being targeted at an entire region, the person months have been prorated equally to the countries comprising that region. This imputation of effort to individual countries helps identify the countries which are presumably the major beneficiaries of the centers' efforts. However, caution should be used when viewing this data to compare the relative benefits derived by the individual Sub-Saharan countries from IARC activities. Table 6-b reports the same data in its original, non-redistributed, form.

TABLE 6-a: SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY CENTER (Redistributed)

COUNTRY	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTALS
ANGOLA	0.63	-	-	1.20	-	7.57	0.26	6.28	1.85	12.93	1.60	0.27	-	32.60
BENIN	0.07	4.25	-	0.86	-	1.70	0.15	33.05	1.85	12.93	2.29	0.57	17.58	75.30
BOTSWANA	0.63	-	-	1.34	-	9.13	0.26	7.05	10.85	12.93	1.60	1.57	-	45.40
BURKINA FASO	0.07	6.00	-	6.21	-	28.81	15.05	69.81	1.85	12.93	0.36	9.75	7.56	158.40
BURUNDI	21.85	-	33.77	6.08	-	3.16	0.15	6.41	1.85	12.93	1.50	0.47	-	88.20
CAMEROON	0.07	-	9.80	3.26	-	1.70	3.15	281.02	10.25	12.93	1.50	5.72	-	329.40
CAPE VERDE	0.07	-	2.80	-	-	1.70	0.15	5.50	1.85	12.93	0.10	0.28	-	25.40
CENTRAL AFRICA REP.	0.07	-	-	-	-	1.70	0.15	6.44	1.85	12.93	1.50	0.47	-	25.10
CHAD	0.07	-	-	0.67	-	17.45	0.15	9.46	1.85	12.93	-	0.50	7.56	50.60
CONGO	0.07	-	-	-	-	1.70	0.15	7.22	3.35	12.93	1.50	0.47	-	27.40
EQUATORIAL GUINEA	0.07	-	1.40	-	-	1.70	0.15	6.34	1.85	12.93	1.50	0.47	-	26.40
ETHIOPIA	6.97	37.72	10.10	0.34	30.44	3.16	0.35	6.84	138.55	12.93	3.38	12.78	-	263.60
GABON	0.07	-	-	-	-	1.70	0.15	10.84	1.85	17.73	1.50	0.47	-	34.30
GAMBIA	0.07	-	-	0.67	-	17.45	27.15	9.46	23.85	39.53	-	1.50	34.62	154.30
GHANA	0.07	32.00	-	2.34	-	17.82	3.85	117.93	1.85	12.93	5.57	0.57	27.02	222.00
GUINEA	0.07	-	-	0.86	-	17.44	0.15	17.15	1.85	12.93	2.29	0.57	45.53	98.80
GUINEA-BISSAU	0.07	0.59	-	0.67	-	1.70	0.15	10.57	1.85	12.93	-	0.50	7.56	36.60
IVORY COAST	0.07	6.00	-	26.49	-	1.70	17.05	33.05	1.85	17.73	2.29	1.82	93.95	202.00
KENYA	5.82	78.51	30.55	4.44	-	4.14	99.45	16.03	86.35	30.93	1.60	6.27	-	364.10
LESOTHO	0.63	-	-	1.20	-	8.43	0.26	6.55	1.85	12.93	1.60	0.27	-	33.70
LIBERIA	0.07	-	-	0.86	-	1.70	0.35	24.70	1.85	12.93	2.85	0.57	36.94	82.80
MADAGASCAR	0.07	1.75	6.30	2.25	-	1.70	0.15	6.34	1.85	12.93	2.02	14.97	-	50.30
MALAWI	0.62	17.25	6.30	1.20	-	10.59	4.86	27.63	5.05	12.93	1.60	2.22	-	90.20
MALT	0.07	3.60	-	6.77	-	29.36	0.15	17.81	88.55	12.93	-	0.50	9.36	169.10
MAURITANIA	0.07	-	-	0.67	-	17.55	0.15	9.46	1.85	12.93	-	0.50	7.56	50.70
MAURITIUS	0.07	-	0.62	-	-	1.70	0.15	6.34	1.85	12.93	1.50	0.47	-	25.60
MOZAMBIQUE	0.62	-	-	1.54	-	8.07	0.26	8.07	3.35	12.93	1.60	0.27	-	37.00
NIGER	0.07	-	-	5.56	-	41.43	0.15	34.68	24.95	12.93	-	11.00	15.69	146.50
NIGERIA	0.07	33.09	-	2.69	-	16.65	10.35	288.08	78.05	17.73	1.32	0.50	15.18	463.70
ZAMBIA	0.62	10.24	4.40	1.40	-	8.77	35.96	28.07	1.85	12.93	1.60	7.72	-	113.60
ZIMBABWE	0.62	28.08	0.62	2.85	-	11.61	5.06	15.94	15.25	12.93	1.60	15.82	-	110.40
TOTAL	97	308	137	107	62	351	286	1487	571	610	60	128	544	4747

COUNTRY	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTAL
ANGOLA	0.56	-	-	-	-	5.27	0.11	0.88	-	-	-	-	-	6.8
BENIN	-	4.25	-	-	-	-	-	15.90	-	-	-	-	7.87	28.0
BOTSWANA	0.56	-	-	0.14	-	6.83	0.11	1.65	9.00	-	-	1.30	-	19.6
BURKINA FASO	-	6.00	-	5.54	-	27.11	14.90	60.35	-	-	0.36	9.25	-	123.5
BURUNDI	21.78	-	33.77	6.08	-	1.46	-	0.07	-	-	-	-	-	63.2
CAMEROON	-	-	9.80	3.26	-	-	3.00	274.68	8.40	-	-	5.25	-	304.4
CAPE VERDE	-	-	2.80	-	-	-	-	-	-	-	-	-	-	2.8
CENTRAL AFRICAN RP	-	-	-	-	-	-	-	0.10	-	-	-	-	-	0.1
CHAD	-	-	-	-	-	15.75	-	-	-	-	-	-	-	15.7
CONGO	-	-	-	-	-	-	-	0.88	1.50	-	-	-	-	2.4
EQUAT GUINEA	-	-	1.40	-	-	-	-	-	-	-	-	-	-	1.4
ETHIOPIA	6.90	37.72	10.10	0.34	30.44	1.46	0.20	1.34	136.70	-	3.28	12.50	-	241.0
GABON	-	-	-	-	-	-	-	4.50	-	4.50	-	-	-	9.3
GAMBIA	-	-	-	-	-	15.75	27.00	-	22.00	26.60	-	1.00	27.06	119.4
GHANA	-	32.00	-	1.48	-	16.12	3.70	100.78	-	-	3.28	-	17.31	174.7
GUINEA	-	-	-	-	-	15.74	-	-	-	-	-	-	35.82	51.6
GUINEA-BISSAU	-	0.59	-	-	-	-	-	1.11	-	-	-	-	-	1.7
IVORY COAST	-	6.00	-	25.63	-	-	16.90	15.90	-	4.80	-	1.25	84.24	154.7
KENYA	5.75	78.51	30.55	3.24	-	1.84	99.30	10.63	84.50	18.00	-	6.00	-	338.3
LESOTHO	0.56	-	-	-	-	6.13	0.11	1.15	-	-	-	-	-	8.0
LIBERIA	-	-	-	-	-	-	0.20	7.55	-	-	0.56	-	27.23	35.5
MADAGASCAR	-	1.75	6.30	2.25	-	-	-	-	-	-	0.52	14.50	-	25.3
MALAWI	0.55	17.25	6.30	-	-	8.29	4.71	22.23	3.20	-	-	1.95	-	64.5
MALI	-	3.60	-	6.10	-	27.66	-	8.35	86.70	-	-	-	1.80	134.2
MAURITANIA	-	-	-	-	-	15.85	-	-	-	-	-	-	-	15.8
MAURITIUS	-	-	0.62	-	-	-	-	-	-	-	-	-	-	0.6
MOZAMBIQUE	0.55	-	-	0.34	-	6.04	0.11	2.67	1.50	-	-	-	-	11.2
NIGER	-	-	-	4.89	-	39.73	-	25.22	23.10	-	-	10.50	8.13	111.6
NIGERIA	-	33.09	-	2.02	-	14.95	10.20	278.62	76.20	4.80	1.32	-	7.62	428.8
RWANDA	21.78	1.69	7.37	6.02	-	1.46	17.60	34.61	4.50	-	-	10.50	-	105.5
SAO TOME & PRINCIPE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SENEGAL	-	1.80	12.60	0.14	-	15.85	16.80	6.64	7.20	11.40	0.72	4.75	86.32	164.2
SIERRA LEONE	-	-	-	0.20	0	0	0	7.54	-	-	0.32	-	96.91	105.0
SOMALIA	2.30	2.31	-	-	-	1.46	3.50	3.25	10.40	-	-	-	-	23.2
SUDAN	-	-	-	4.22	31.36	0.71	-	-	3.00	-	-	-	-	39.3
SWAZILAND	0.56	1.15	-	-	-	4.42	0.11	1.15	-	-	-	-	-	7.4
TANZANIA	0.55	35.96	4.40	-	-	7.79	5.61	41.84	3.20	-	0.60	-	-	100.0
TOGO	-	6.00	1.40	1.49	-	-	-	0.26	-	4.80	-	-	7.72	21.7
UGANDA	8.05	-	0.62	2.04	-	1.44	-	2.69	-	-	-	1.50	-	16.3
ZAIRE	22.44	-	3.62	5.96	-	-	15.10	170.82	-	4.80	-	7.00	-	229.7
ZAMBIA	0.55	10.24	4.40	0.20	-	6.47	35.81	22.67	-	-	-	7.45	-	87.8
ZIMBABWE	0.55	28.08	0.62	1.65	-	9.31	4.91	10.54	13.40	-	-	15.55	-	84.6
TOTAL	94	308	137	83	62	275	280	1137	495	80	11	110	408	3480

PERSON MONTHS ALLOCATED DIRECTLY TO REGIONS BY CENTER

[illegible]

TABLE 7

SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY ACTIVITY CODE

Table 7 is similar in format to Table 5, but summarizes the person months targeted to the regions of Sub-Saharan Africa by Activity Code rather than by Center. This allows an examination of the relative importance of CGIAR activities by function and by region in Sub-Saharan Africa. As with Table 5, Table 7-a reallocates those person months targeted to the whole of Sub-Saharan Africa on a prorata basis to the individual countries in the five TAC regions. The countries are then aggregated into the TAC regions. As in Table 5, the major Activity Codes are:

- 1: Plant Genetic Resources
- 2: Natural Resources Research
- 3: Crop Productivity Research
- 4: Livestock Productivity
Research
- 5: Crop/Livestock Production
Systems Research
- 6: Commodity Conversion and
Utilization Research
- 7: Human Nutrition Linkages
- 8: Policy Research
- 9: Human Resource Enhancement
- 10: Institution Building
- 11: Collaborative Research
Networks
- 12: Transfer of Technology
and Research Methods

TABLE 7-a: SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY ACTIVITY CODE (Redistributed)

REGION	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
EAST/SOUTHERN AFRICA	25.97	7.28	287.57	218.57	33.80	12.15	61.75	77.19	168.43	28.37	36.47	28.26	986.00
EQUATORIAL AFRICA	32.06	13.13	441.78	141.47	106.09	18.54	9.37	41.57	122.63	42.93	30.14	33.63	1033.30
HUMID WEST AFRICA	54.42	72.54	362.19	90.59	116.12	23.42	9.71	20.34	91.00	7.21	22.00	32.53	902.10
SEMI-ARID WEST AFRICA	50.20	108.06	561.43	307.94	101.51	28.20	37.07	58.78	91.75	29.75	13.99	40.27	1429.00
EAST AND CENTRAL AFRICA	5.31	7.08	86.55	119.23	41.63	13.06	-	7.25	69.55	30.87	10.43	5.63	396.60
TOTAL	168	208	1740	878	399	95	118	205	543	139	113	140	4747

TABLE 7-b: SENIOR STAFF PERSON MONTHS BY TARGETED REGION AND BY ACTIVITY CODE (Not redistributed)

REGION	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
EAST/SOUTHERN AFRICA	24.08	4.95	262.09	101.50	27.00	12.03	61.75	68.36	133.18	28.37	29.15	19.64	772.1
EQUATORIAL AFRICA	29.99	10.58	413.53	12.69	98.60	18.41	9.37	31.85	83.87	42.93	22.09	24.15	798.1
HUMID WEST AFRICA	53.10	70.92	344.21	8.64	111.36	23.33	9.71	14.16	66.34	7.21	16.88	26.50	752.4
SEMI-ARID WEST AFRICA	48.50	105.97	538.31	202.57	95.39	28.09	37.07	50.83	60.03	29.75	7.40	32.52	1236.4
EAST AND CENTRAL AFRICA	4.56	6.15	76.28	72.40	38.90	13.01	-	3.72	55.45	30.87	7.50	2.19	311.1
ALL SUB SAHARAN AFRICA	7.73	9.53	105.28	480.00	27.88	0.50	-	144.46	144.46	-	30.00	35.34	876.9
TOTAL	168	208	1740	878	399	95	118	205	543	139	113	140	4747

TABLE 8

SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY ACTIVITY CODE

Table 8 disaggregates the information contained in Table 7 and presents the total person months targeted by the individual Centers at specific countries. Table 8 presents a detailed description of the type of activities that the CGIAR System is carrying out in all Sub-Saharan African countries. Unlike the previous three tables, Table 8 does not impute back to individual countries the person months which are reported as targeted at the various TAC regions. Activities imputed to the TAC regions (without any country specification) are presented separately at the bottom of the table and are included in the totals.

TABLE 8: SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY ACTIVITY CODE (Not redistributed)

COUNTRY	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
ANGOLA	-	-	5.65	-	-	-	-	0.10	1.08	-	-	0.01	6.8
BENIN	-	8.27	8.13	-	2.38	0.15	-	-	4.59	-	-	4.50	28.0
BOTSWANA	0.14	-	8.86	9.00	-	-	-	0.11	1.50	-	-	0.01	19.6
BURKINA FASO	5.54	14.45	75.38	-	-	-	5.91	8.04	1.11	9.50	3.30	0.28	123.5
BURUNDI	6.08	-	34.30	-	-	3.38	-	-	13.31	4.79	0.39	0.91	63.1
CAMEROON	5.39	6.51	199.27	4.05	46.01	9.92	-	3.50	13.00	3.41	4.55	8.81	304.3
CAPE VERDE	-	-	1.12	-	-	0.28	-	-	0.84	0.42	-	0.14	2.8
CENTRAL AFRICAN REP.	-	-	-	-	-	-	-	-	0.10	-	-	-	0.1
CHAD	-	1.20	13.54	-	-	-	-	1.01	-	-	-	-	15.8
CONGO	-	-	-	-	-	-	-	-	0.88	0.60	0.90	-	2.4
EQUATORIAL GUINEA	-	-	0.56	-	0.00	0.14	-	-	0.40	0.20	-	0.08	1.4
ETHIOPIA	0.34	5.70	44.35	65.20	38.90	12.73	-	0.20	40.71	26.01	5.00	1.86	241.0
GABON	-	-	-	4.32	-	-	-	-	0.48	-	-	4.50	9.3
GAMBIA	-	1.20	23.98	47.27	8.88	7.20	13.50	14.51	1.87	1.00	1.00	-	119.4
GHANA	4.78	10.77	90.69	-	16.19	2.83	-	3.81	29.25	4.75	2.70	8.88	174.7
GUINEA	-	5.25	24.01	-	18.88	2.40	-	2.40	-	1.00	-	-	51.5
GUINEA-BISSAU	-	-	0.50	-	-	1.19	0.03	-	-	-	-	-	1.7
IVORY COAST	25.63	13.66	58.62	4.32	27.48	0.38	5.91	7.29	4.29	1.50	5.45	0.20	154.7
KENYA	6.45	4.50	77.95	85.30	0.50	1.92	45.50	51.70	42.92	9.10	5.00	7.45	338.3
LESOTHO	-	-	7.60	-	-	-	-	0.11	0.20	-	-	0.01	8.0
LIBERIA	-	4.37	22.51	-	-	4.0	-	-	3.39	-	0.75	0.52	35.5
MADAGASCAR	2.25	-	1.30	-	-	3.15	-	-	3.60	14.50	-	0.52	25.3
MALAWI	-	-	33.81	-	-	3.15	-	4.18	16.99	2.45	3.20	0.71	64.5
MALI	6.10	6.48	40.03	72.10	0.90	-	-	0.88	1.56	2.55	3.60	-	134.2
MAURITANIA	-	2.06	12.90	-	-	-	-	0.88	-	-	-	-	15.8
MAURITIUS	-	-	-	-	-	-	-	-	-	0.62	-	-	0.6
MOZAMBIQUE	0.34	-	7.95	-	-	-	-	0.11	1.32	0.60	0.90	0.01	11.2
NIGER	7.22	16.37	55.17	18.60	-	0.65	0.37	6.68	0.97	5.25	-	0.30	111.6
NIGERIA	8.50	29.08	186.95	46.57	60.28	16.00	4.50	8.78	36.61	9.45	3.30	18.79	428.8
RWANDA	6.85	2.67	35.47	-	14.65	0.74	7.50	14.08	10.32	8.86	3.21	1.19	105.5
SAO TOME & PRINCIPE	-	-	-	-	-	-	-	-	-	-	-	-	0.0
SENEGAL	0.14	34.68	59.02	8.03	22.83	4.16	9.19	7.99	4.73	1.95	1.14	-	164.2
SIERRA LEONE	0.20	20.42	46.65	-	34.48	0.50	-	-	2.39	-	-	0.32	105.0
SOMALIA	-	-	9.78	7.20	-	-	-	2.80	2.74	-	0.70	-	23.2
SUDAN	4.22	-	18.78	-	-	-	-	0.72	9.14	4.44	1.80	0.19	39.3
SWAZILAND	-	-	6.46	-	0.11	0.65	-	0.11	0.65	-	-	0.21	7.4
TANZANIA	3.30	-	40.77	-	0.20	2.72	-	3.15	34.06	4.15	3.95	7.71	100.0
TOGO	1.49	7.72	4.56	4.32	-	0.14	-	-	2.39	0.95	-	0.08	21.7
UGANDA	2.04	-	6.67	-	-	-	-	-	5.51	2.12	-	-	16.4
ZAIRE	7.48	1.40	114.12	4.32	37.94	1.08	1.87	12.16	33.21	7.82	0.23	8.12	229.8
ZAMBIA	0.20	-	29.72	-	20.30	2.72	16.00	4.47	10.75	1.45	0.70	1.46	87.8
ZIMBABWE	1.65	-	30.72	7.20	6.00	1.54	0.24	4.30	15.24	10.62	5.00	2.06	84.6
EAST/SOUTHERN AFRICA	12.00	0.45	12.57	-	-	-	-	-	8.48	-	10.40	-	43.9
EQUATORIAL AFRICA	-	-	21.85	-	-	-	-	2.13	3.02	-	12.81	-	39.8
HUMID WEST AFRICA	21.00	0.45	89.03	-	11.95	12.93	0.50	2.06	20.02	-	11.28	12.00	181.2
SEMI-ARID WEST AFRICA	21.00	0.45	70.84	-	2.50	0.08	-	2.06	12.00	-	0.50	12.00	121.4
EAST & CENTRAL AFRICA	-	0.45	2.25	-	-	-	-	-	2.03	-	-	-	4.7
ALL SUB SAHARAN AFRICA	7.73	9.53	105.28	480.00	27.88	0.50	-	36.20	144.46	-	30.00	35.34	876.9
TOTAL	168	208	1740	878	399	95	108	205	543	139	123	140	4747

TABLE 9

SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY OPERATIONAL METHOD

Table 9 details the operational methods or techniques employed by the CGIAR Centers in their activities targeted at specific countries in Sub-Saharan Africa. This information helps in the assessment of the Centers' interactions with the individual countries and their NARS. As is to be expected, research is the major technique (72%) with training a distant second (13%). Technical assistance is the operational method for only 4.5% of the person months reported in Sub-Saharan Africa.

TABLE 9: SENIOR STAFF PERSON MONTHS BY TARGETED COUNTRY AND BY OPERATIONAL METHOD (Not redistributed)

COUNTRY	RESEARCH	TRAINING	ADVISORY SERVICES	TECHNICAL ASSISTANCE	CONFERENCES & SEMINARS	INFORMATION DISSEMINATION	TOTAL
ANGOLA	5.37	0.88	0.31	0.17	0.06	0.04	6.8
BENIN	18.74	4.34	0.25	-	4.69	-	28.0
BOTSWANA	15.63	1.30	0.36	2.19	0.09	0.04	19.6
BURKINA FASO	103.97	2.82	6.71	8.97	0.03	1.07	123.5
BURUNDI	24.05	10.90	5.92	18.15	1.78	2.37	63.1
CAMEROON	246.10	18.26	9.70	18.38	3.43	8.55	304.4
CAPE VERDE	0.71	0.85	0.28	-	0.14	2.8	2.8
CENTRAL AFRICAN REPUBLIC	0.01	0.09	-	-	-	-	0.1
CHAD	15.75	-	-	-	-	-	15.8
CONGO	0.75	1.03	0.15	0.15	0.15	0.15	2.4
EQUATORIAL GUINEA	0.35	0.40	0.14	0.40	-	0.06	1.4
ETHIOPIA	127.41	45.90	34.61	16.43	6.21	10.40	241.0
GABON	4.32	0.48	-	-	4.50	-	9.3
GAMBIA	102.04	11.97	2.84	1.84	0.36	0.36	119.4
GHANA	119.92	34.63	8.12	2.96	2.83	6.22	174.7
GUINEA	47.77	3.78	-	-	-	-	51.5
GUINEA-BISSAU	0.50	1.14	0.08	-	-	-	1.7
IVORY COAST	130.70	11.08	5.05	6.70	0.34	0.85	154.7
KENYA	223.31	68.25	20.45	16.36	3.02	6.91	338.3
LESOTHO	7.28	-	0.34	0.23	0.08	0.04	8.0
LIBERIA	30.03	4.11	0.50	0.47	0.09	0.33	35.5
MADAGASCAR	3.70	2.03	3.60	14.92	0.20	0.84	25.3
MALAWI	40.94	15.16	4.05	1.70	1.26	1.34	64.5
MALI	108.69	3.34	7.52	11.11	0.65	2.92	134.2
MAURITANIA	15.85	-	-	-	-	-	15.8
MAURITIUS	0.25	0.16	0.06	0.12	-	0.03	0.6
MOZAMBIQUE	8.29	1.48	0.50	0.54	0.24	0.19	11.2
NIGER	94.47	0.97	11.86	3.19	0.56	0.52	111.6
NIGERIA	333.85	37.90	16.84	12.81	11.26	14.16	428.8
RWANDA	58.31	11.93	10.99	18.72	3.55	2.01	105.0
SAO TOME & PRINCIPE	-	-	-	-	-	-	-
SENEGAL	135.52	18.44	3.37	4.46	0.39	2.07	164.2
SIERRA LEONE	92.09	9.04	3.37	0.13	-	0.32	105.0
SOMALIA	17.62	2.69	1.16	1.14	0.23	0.39	23.2
SUDAN	10.11	9.58	6.75	8.80	1.60	2.44	39.3
SWAZILAND	6.07	0.20	0.39	0.23	0.28	0.24	7.4
TANZANIA	52.51	31.99	5.97	1.61	6.40	1.52	100.0
TOGO	17.06	2.14	1.14	1.22	-	0.06	21.7
UGANDA	4.92	4.46	2.77	3.77	-	0.43	16.4
ZAIRE	148.05	35.29	12.78	19.30	5.30	9.07	229.8
ZAMBIA	67.19	13.57	2.62	1.28	1.41	1.72	87.8
ZIMBABWE	49.96	15.80	10.74	2.18	3.04	2.87	84.6
EAST/SOUTHERN AFRICA	18.42	12.70	5.24	3.11	2.37	2.02	43.9
EQUATORIAL AFRICA	28.66	6.14	1.18	1.88	1.12	0.84	39.8
HUMID WEST AFRICA	137.51	19.08	3.35	2.54	2.86	15.84	181.2
SEMI-ARID WEST AFRICA	91.97	8.10	2.90	1.98	1.35	15.10	121.4
EAST & CENTRAL AFRICA	2.67	1.95	-	-	0.08	-	4.7
ALL SUB SAHARAN AFRICA	666.07	145.87	5.68	2.52	12.62	44.19	877.0
TOTAL	3437	632	221	213	84	159	4747

TABLE 10

TABLE 10: SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR AND BY LOCATION

Table 10 lists all funding sources for CGIAR activities in Sub-Saharan Africa. These include the Centers themselves as well as donors for Special Projects. The amount of person months funded by each donor is broken out by the location of the activity. This allows an examination of where activities funded by donors are actually carried out. Due to inconsistencies in the method of reporting, the totals in this table reflect the inclusion of 95.5 person months not specifically targeted for Sub-Saharan Africa.

TABLE 10: SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR AND BY LOCATION

FUNDING SOURCE	AT CENTER HEADQUARTERS	AT SUB-CENTER	IN TARGETED COUNTRY	OTHER	TOTAL
CIAT	-	-	-	-	-
CIMMYT	129.00	14.00	45.49	1.00	189.5
CIP	47.80	-	42.96	-	90.8
IBPGR	16.58	-	84.65	1.00	102.2
ICARDA	28.73	-	1.45	1.00	31.2
ICRISAT	77.38	169.84	-	-	247.2
IFPRI	63.87	-	12.00	-	75.9
IITA	805.65	51.74	48.59	-	906.0
ILCA	306.60	131.03	55.10	12.80	505.5
ILRAD	546.00	-	8.00	-	554.0
IRRI	7.60	7.20	-	-	14.8
ISNAR	39.76	-	18.42	1.00	59.2
WARDA	2.70	-	-	-	2.7
CGIAR	34.10	144.41	83.80	-	262.3
ROCKEFELLER	4.00	-	14.01	-	18.0
USAID	73.38	112.50	428.53	-	614.4
WORLD BANK	13.28	-	62.39	-	75.7
UNDP	30.79	17.50	28.96	-	77.2
FAO	7.50	6.50	11.48	-	25.7
UNDP/FAO	0.90	3.20	10.40	-	14.5
UNU	19.71	-	-	-	19.7
CIDA	3.45	-	100.10	1.50	105.0
IDRC	51.07	1.20	40.21	-	92.5
FORD	12.29	2.40	-	-	14.7
AGCD	6.48	-	11.85	-	18.3
IFAD	30.75	7.20	27.64	-	65.6
AGCD/IFAD	-	-	-	-	-
SAFGRAD	-	24.00	-	-	24.0
SPONSORING GROUP	85.27	-	-	-	85.3
GTZ	11.89	1.20	13.44	-	26.5
EEC	2.00	-	50.92	36.00	88.9
BELGIUM	3.00	44.66	26.84	-	74.5
CAMEROON	2.00	-	2.00	-	4.0
FRANCE	-	6.80	-	-	6.8
ITALY	31.50	-	25.02	-	56.5
JAPAN	18.00	-	16.00	-	34.00
NETHERLANDS	7.64	22.00	16.00	-	45.6
NIGERIA	-	-	10.08	1.20	11.3
SDC	21.60	-	79.60	-	101.2
ODA	-	-	3.59	-	3.6
ORSTOM	-	7.20	3.10	-	10.3
IVCN	-	-	0.70	-	0.7
CARE	5.40	-	-	-	5.4
KEW BOTANICAL GARDEN	-	-	0.30	-	0.3
UNV	-	-	3.70	-	3.7
NARI	-	-	6.80	-	6.8
IRAZ	-	-	0.90	-	0.9
ARC/SUDAN	0.25	-	0.25	-	0.5
IAR/ETHIOPIA	-	-	1.00	-	1.0
OPEC	-	2.00	-	-	2.0
UNIV HOHENHEIM	-	11.94	-	-	11.9
ACIAR	9.00	-	-	6.00	15.0
CLUB DE SAHEL	3.08	-	-	-	3.1
CEDRES/CIRES/CIRAD	-	-	12.00	-	12.0
OAU/STRC	-	-	14.50	-	14.5
TOTAL	2560	789	1432	61	4842

(includes 95 pms reported for non-Africa)

TABLE 11

SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR IN EACH COUNTRY

This table lists the person months funded by each donor of CGIAR activities in each of the targeted countries. This permits an evaluation of the degree of concentration of donor funding by country. To accomodate the large number of donors, Table 11 is broken into several parts. The first part lists the Centers themselves as the source of funding. The entries are the person months reported as funded by the Centers core budget. The following sections list the person months supported by all other donors reported as having funded activities in Sub-Saharan Africa in 1986.

TABLE 11-1: SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR IN EACH COUNTRY

COUNTRY	CIAT	CIMMYT	CIP	IBPGR	ICARDA	ICRISAT	IFPRI	IITA	ILCA	ILRAD	IRRI	ISNAR	WARDA	TOTALS
ANGOLA	-	-	-	-	-	1.96	0.11	-	-	-	-	-	-	2.1
BENIN	-	4.25	-	-	-	-	-	14.37	-	-	-	-	-	18.6
BOTSWANA	-	-	-	0.14	-	3.16	0.11	1.65	5.04	-	-	1.11	-	11.2
BURKINA FASO	-	-	-	3.74	-	21.40	6.76	15.55	-	-	-	5.37	-	52.8
BURUNDI	-	-	12.10	5.29	-	-	-	-	0.49	-	-	-	-	17.9
CAMEROON	-	-	8.54	2.94	-	-	3.00	81.29	7.80	-	-	1.25	-	104.8
CAPE VERDE	-	-	2.42	-	-	-	-	-	-	-	-	-	-	2.4
CENTRAL AFRICAN REPUBLIC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHAD	-	-	-	-	-	12.20	-	0.52	-	-	-	-	-	12.7
CONGO	-	-	-	-	-	-	-	-	1.20	-	-	-	-	1.2
EQUATORIAL GUINEA	-	-	1.24	-	-	-	-	-	-	-	-	-	-	1.2
ETHIOPIA	-	16.77	7.85	1.32	14.52	-	0.20	0.75	131.00	-	-	12.50	-	184.9
GABON	-	-	-	-	-	-	-	4.50	-	4.80	-	-	-	9.3
GAMBIA	-	-	-	-	-	12.20	-	0.52	22.00	-	-	-	-	34.7
GHANA	-	6.00	-	1.86	-	12.20	0.20	59.59	-	-	-	-	-	79.9
GUINEA	-	-	-	-	-	13.27	-	0.50	-	-	-	-	-	13.8
GUINEA-BISSAU	-	-	-	-	-	-	-	0.53	-	-	-	-	-	0.5
IVORY COAST	-	6.00	-	18.77	-	-	6.76	9.71	-	4.80	-	-	-	46.0
KENYA	-	51.55	23.89	3.24	-	-	15.10	5.46	77.48	-	-	4.00	-	180.7
LESOTHO	-	-	-	-	-	2.45	0.11	1.15	-	-	-	-	-	3.7
LIBERIA	-	-	-	-	-	-	0.20	7.52	-	-	0.32	-	-	8.0
MADAGASCAR	-	0.60	4.86	1.64	-	-	-	-	-	-	0.52	1.50	-	9.1
MALAWI	-	13.80	4.86	-	-	4.61	2.11	9.85	0.80	-	-	1.67	-	37.7
MALI	-	-	-	4.90	-	12.53	-	5.22	-	73.86	-	-	-	96.5
MAURITANIA	-	-	-	-	-	13.43	-	0.50	-	-	-	-	-	13.9
MAURITIUS	-	-	0.48	-	-	-	-	-	-	-	-	-	-	0.5
MOZAMBIQUE	-	-	-	0.34	-	2.45	0.11	1.77	1.20	0	0	0	0	5.9
NIGER	-	-	-	4.41	-	30.81	-	17.82	17.22	-	-	4.00	0	74.3
NIGERIA	-	33.09	0	1.57	-	12.53	7.19	221.22	72.60	4.80	0.72	-	0	353.7
RWANDA	-	0.39	2.90	5.20	-	-	3.10	16.39	4.11	-	-	1.54	-	33.6
SENEGAL	-	-	10.97	0.14	0	13.43	9.96	3.20	7.20	-	0.72	-	-	45.6
SIERRA LEONE	-	-	-	0.19	-	-	-	5.53	-	-	0.32	-	-	6.0
SOMALIA	-	0.11	-	-	-	-	-	1.46	10.40	-	-	-	-	12.0
SUDAN	-	2.00	-	2.62	16.66	-	-	-	2.40	-	-	-	-	23.7
SWAZILAND	-	-	-	-	-	1.20	0.11	1.15	-	-	-	-	-	2.5
TANZANIA	-	27.15	3.44	-	-	2.40	5.61	30.11	0.8	-	-	-	-	69.5
TOGO	-	6.00	1.24	0.89	-	-	-	0.26	-	4.80	-	-	-	13.2
UGANDA	-	-	0.48	1.64	-	-	-	1.65	-	-	-	1.50	-	5.3
ZAIRE	-	-	1.56	5.17	-	-	9.49	59.39	0.49	4.80	-	0.50	-	81.4
ZAMBIA	-	3.30	3.44	0.20	-	2.89	3.31	7.57	-	-	-	1.67	-	22.4
ZIMBABWE	-	18.45	0.48	1.65	-	2.40	2.31	10.53	10.40	-	-	9.86	-	56.1
EAST/SOUTHERN AFRICA	-	-	-	12.00	-	-	-	5.58	-	-	3.97	-	-	21.6
EQUATORIAL AFRICA	-	-	-	-	-	-	-	8.30	-	-	4.07	-0.67	-	13.0
HUMID WEST AFRICA	-	-	-	6.00	-	-	-	65.36	-	-	3.97	0.65	1.35	77.3
SEMI ARID WEST AFRICA	-	-	-	6.00	-	-	-	39.31	-	-	-	0.65	1.35	47.3
EAST & CENTRAL AFRICA	-	-	-	-	-	-	-	1.67	-	-	0.20	-	-	1.9
ALL SUB SAHARAN AFRICA	-	-	-	-	-	69.60	-	154.84	57.83	530.00	-	10.74	-	823.0
TOTAL	-	188	91	90	31	247	76	884	504	554	15	59	3	2741

TABLE 11-2: SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR IN EACH COUNTRY
(cont.)

COUNTRY	CGIAR	ROCKEF.	USAID	W.BANK	UNDP	FAO	UNDP/FAO	UNU	CIDA	IDRC	FORD	AGCD	IFAD	SAFGRAD
ANGOLA	-	-	3.31	-	-	-	-	-	0.56	-	-	-	-	-
BENIN	7.87	-	-	-	0.65	-	-	-	-	-	-	-	-	-
BOTSWANA	-	-	7.27	-	-	-	-	-	0.75	-	-	-	-	-
BURKINA FASO	-	-	37.5	3.87	-	-	-	2.48	-	2.34	3.16	-	-	3.16
BURUNDI	-	-	3.35	-	-	2.28	-	-	-	0.07	-	-	-	1.46
CAMEROON	-	-	137.72	-	-	-	-	2.01	0	23.11	1.64	8.13	2.97	-
CAPE VERDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTRAL AFRICA REP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHAD	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00
CONGO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EQUATORIAL GUINEA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ETHIOPIA	-	-	9.71	6.90	0.60	1.20	-	-	19.18	2.40	-	-	4.55	1.46
GABON	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMBIA	10.10	-	14.12	-	0.43	0.43	1.53	-	-	-	-	-	20.25	1.00
GHANA	9.00	-	0.37	3.50	4.41	3.77	-	1.39	38.00	0.31	-	1.29	1.92	1.00
GUINEA	17.19	-	6.37	-	3.80	3.80	1.53	-	-	-	-	-	-	1.00
GUINEA-BISSAU	-	-	0.30	-	-	-	-	-	-	-	-	-	-	-
IVORY COAST	51.23	-	17.59	4.75	2.80	2.80	3.05	-	-	1.34	2.23	0.47	2.47	-
KENYA	-	11.75	70.40	-	2.39	-	-	-	24.35	4.07	-	-	11.00	1.84
LESOTHO	-	-	3.68	-	-	-	-	-	0.56	-	-	-	-	-
LIBERIA	16.29	-	0.72	-	0.52	0.52	0.008	-	-	0.24	-	-	-	-
MADAGASCAR	-	-	1.15	13.00	-	-	-	-	-	-	-	-	-	-
MALAWI	-	-	7.13	-	2.83	-	-	-	0.84	4.04	-	-	-	-
MALI	-	-	21.03	-	-	-	-	-	-	0.21	-	-	7.68	1.67
MAURITANIA	-	-	-	-	-	-	-	-	-	-	-	-	-	0.96
MAURITIUS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOZAMBIQUE	-	-	3.59	-	-	-	-	-	0.55	-	-	-	-	-
NIGER	6.33	-	7.24	6.50	-	-	-	-	-	0.21	-	-	1.92	0.96
NIGERIA	4.80	-	-	-	3.96	2.07	-	9.09	-	8.93	4.06	2.19	2.03	0.96
RWANDA	-	-	4.32	20.95	-	-	-	0.76	1.30	4.93	0.53	-	-	1.46
SENEGAL	29.50	1.26	21.05	-	1.54	1.54	3.05	-	-	0.21	1.71	-	-	0.96
SIERRA LEONE	46.77	-	23.40	-	5.07	4.33	0.62	-	-	0.02	0.02	0.50	-	-
SOMALIA	-	-	0.64	3.50	1.79	-	-	-	3.86	-	-	-	-	1.46
SUDAN	-	-	0.29	4.91	-	-	-	-	-	-	-	-	4.94	0.71
SWAZILAND	-	-	4.39	-	-	-	-	-	0.56	-	-	-	-	-
TANZANIA	-	-	6.65	-	6.02	-	-	-	6.65	4.64	-	0.09	-	1.44
TOGO	7.71	-	-	-	-	-	-	-	-	-	-	-	-	-
UGANDA	-	-	2.24	-	-	-	-	-	5.81	-	-	0.03	-	1.44
ZAIRE	-	-	104.92	-	6.71	-	-	-	-	5.61	1.06	-	-	-
ZAMBIA	-	2.50	10.54	3.50	-	-	-	-	0.84	-	-	-	-	-
ZIMBABWE	-	2.50	16.52	-	-	-	-	-	0.74	2.40	-	-	-	-
EAST/SOUTHERN AFRICA	-	-	11.97	-	7.52	-	-	-	-	1.72	-	-	-	-
EQUATORIAL AFRICA	-	-	4.08	1.45	7.75	-	-	-	-	1.76	-	-	-	-
HUMID WEST AFRICA	27.75	-	26.42	1.41	8.62	1.10	0.45	-	-	0.17	-	3.63	3.36	-
SEMI ARID WEST AFRICA	27.75	-	22.46	1.41	1.10	1.10	0.45	-	-	0.11	-	-	-	-
EAST & CENTRAL AFRICA	-	-	2.01	-	-	-	-	-	-	0.11	-	-	-	-
ALL SUB SAHARAN AFRICA	-	-	-	-	7.52	-	-	2.38	0.50	13.12	0.27	1.68	2.50	-
TOTAL	262	18	614	76	76	26	14	20	105	92	14	18	66	10

24

TABLE 11-3: SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR IN EACH COUNTRY
(cont.)

COUNTRY	SP.GROUP	GTZ	EEC	BELGIUM	CAMER.	FRANCE	ITALY	JAPAN	NETHERL	NIGERIA	SDC	ODA	ORSTOM	IVCN	KEW	B	G	UNV
ANGOLA	0.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BENIN	0.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOTSWANA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BURKINA FASO	-	-	-	-	-	-	-	-	-	-	-	-	1.01	-	-	-	1.20	-
BURUNDI	-	-	-	16.04	-	-	-	-	-	-	-	21.78	-	-	-	-	-	-
CAMEROON	0.12	0.60	6.46	-	4.00	-	-	-	0.14	1.51	1.26	-	0.16	0.16	-	-	-	-
CAPE VERDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTRAL AFRICA REP.	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHAD	-	-	-	-	-	-	-	-	-	-	-	-	1.01	-	-	-	-	-
CONGO	0.88	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EQUATORIAL GUINEA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ETHIOPIA	-	1.60	-	-	-	-	4.00	-	-	-	-	0.55	2.70	-	-	-	-	-
GABON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMBIA	-	-	26.60	0.72	-	-	-	7.20	-	-	0.28	-	1.01	-	-	-	-	-
GHANA	15.15	0.91	5.95	-	-	-	3.40	-	0.28	0.76	0.76	-	1.01	-	-	-	-	-
GUINEA	-	-	-	0.72	-	-	-	2.40	-	-	-	-	-	-	-	-	-	-
GUINEA-BISSAU	0.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IVORY COAST	-	-	-1.21	5.16	-	1.62	-	-	0.11	-	-	-	2.40	-	-	-	2.50	-
KENYA	1.11	0.60	-	-	-	-	5.00	2.60	18.00	0	0	1.67	2.70	-	-	-	-	-
LESOTHO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LIBERIA	-0.87	-	-	4.68	-	-	-	3.20	-	-	0.38	-	-	-	-	-	-	-
MADAGASCAR	-	-	-	-	-	-	1.05	-	-	-	-	0.35	-	-	-	-	-	-
MALAWI	7.93	-	-	-	-	-	1.05	2.60	-	-	-	0.35	-	-	-	-	-	-
MALI	0.87	1.20	-	1.80	-	-	0.02	-	-	-	-	-	0.30	0.30	0.30	-	-	-
MAURITANIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAURITIUS	-	-	-	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-
MOZAMBIQUE	0.90	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NIGER	0.87	0.64	1.95	1.80	-	-	0.76	-	-	-	-	-	3.41	0.24	-	-	-	-
NIGERIA	14.15	1.18	13.17	0.48	-	-	1.44	-	3.12	1.89	0.20	-	-	-	-	-	0.45	-
RWANDA	-	12.80	-	-	-	-	0.10	2.60	-	-	21.78	0.04	-	-	-	-	-	-
SENEGAL	-	-	11.40	8.85	-	0.54	3.51	2.80	22.00	-	1.60	-	-	-	-	-	-	-
SIERRA LEONE	-	-	-	7.89	-	3.24	-	0.40	1.20	-	0.38	-	-	-	-	-	-	-
SOMALIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUDAN	-	0.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWAZILAND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TANZANIA	-	0.91	1.84	-	-	-	1.83	-	0.14	-	-	0.25	-	-	-	-	-	-
TOGO	-	-	-	-	-	-	-	-	-	-	0.20	-	-	-	-	-	-	-
UGANDA	0.97	-	-	-	-	-	0.10	-	0.04	-	-	0.04	-	-	-	-	-	-
ZAIRE	1.87	-	-1.57	-	-	-	0.10	2.60	-	1.13	22.44	0.04	-	-	-	-	-	-
ZAMBIA	15.09	-	-	-	-	-	3.75	-	-	-	29.00	0.25	-	-	-	-	-	-
ZIMBABWE	-	0.60	-	-	-	-	3.10	2.60	-	-	0.04	-	-	-	-	-	-	-
EAST/SOUTHERN AFRICA	-	-	-	-	-	-	-	0.60	-	-	-	-	-	-	-	-	-	-
EQUATORIAL AFRICA	10.98	-	-	-	-	-	-	0.60	0.15	-	-	-	-	-	-	-	-	-
HUMID WEST AFRICA	10.76	-	3.13	11.40	-	-	-	2.10	0.47	2.27	0.30	-	-	-	-	-	-	-
SEMI ARID WEST AFRICA	-	-	3.48	11.40	-	-	-	1.50	-	2.52	0.30	-	-	-	-	-	-	-
EAST & CENTRAL AFRICA	-	-	-	-	-	-	-	0.20	-	-	-	-	-	-	-	-	-	-
ALL SUB SAHARAN AFRICA	-	2.91	10.02	3.56	-	1.40	2.03	-	-	-	-	-	-	-	-	-	-	-
TOTAL	85	25	87	74	4	7	31	34	46	10	101	4	16	1	0.3	-	4	-

TABLE 11. SENIOR STAFF PERSON MONTHS FUNDED BY EACH DONOR IN EACH COUNTRY
(cont.)

COUNTRY	NARI	IRAZ	ARC/SUD	IAR/ETH.	OPEC	U HOHEN	ACIAR	SAHEL	ISRA/CI.	OUA/STRC	TOTAL FOR REPORTED DONORS
ANGOLA	-	-	-	-	-	-	-	-	-	-	6.8
BENIN	-	-	-	-	-	-	-	-	-	-	28.0
BOTSWANA	-	-	-	-	-	-	-	-	-	-	19.2
BURKINA FASO	0.60	-	-	-	-	1.00	-	1.02	3.96	9.37	123.5
BURUNDI	-	0.30	-	-	-	-	-	-	-	-	63.2
CAMEROON	-	-	-	-	-	-	-	-	-	-	304.4
CAPE VERDE	-	-	-	-	-	-	-	-	-	-	2.8
CENTRAL AFRICA REP.	-	-	-	-	-	-	-	-	-	-	0.1
CHAD	-	-	-	-	-	1.00	-	-	-	-	15.7
CONGO	-	-	-	-	-	-	-	-	-	-	2.4
EQUATORIAL GUINEA	-	-	-	-	-	-	-	-	-	-	1.4
ETHIOPIA	-	-	0.02	1.00	0.20	-	-	-	-	-	241.0
GABON	-	-	-	-	-	-	-	-	-	-	9.3
GAMBIA	-	-	-	-	-	1.00	-	-	-	-	119.4
GHANA	0.60	-	-	-	-	1.00	-	-	-	-	174.6
GUINEA	-	-	-	-	-	0.96	-	-	-	-	51.5
GUINEA-BISSAU	-	-	-	-	-	-	-	-	-	-	1.7
IVORY COAST	1.95	-	-	-	-	-	-	1.02	3.96	-	154.7
KENYA	-	-	-	-	-	-	-	-	-	-	338.2
LESOTHO	-	-	-	-	-	-	-	-	-	-	8.0
LIBERIA	-	-	-	-	-	-	-	-	-	-	35.5
MADAGASCAR	0.60	-	-	-	-	-	-	-	-	-	25.3
MALAWI	-	-	-	-	-	-	-	-	-	-	64.5
MALI	-	-	-	-	-	0.96	-	-	-	0.99	133.8
MAURITANIA	-	-	-	-	-	0.96	-	-	-	-	15.9
MAURITIUS	-	-	-	-	-	-	-	-	-	-	0.6
MOZAMBIQUE	-	-	-	-	-	-	-	-	-	-	11.2
NIGER	-	-	-	-	-	3.15	-	-	-	0.99	111.2
NIGERIA	-	-	-	-	-	0.96	-	-	-	-	428.8
RWANDA	-	0.31	-	-	-	-	-	-	-	-	105.5
SENEGAL	-	-	-	-	-	0.96	-	1.05	4.08	0.99	164.2
SIERRA LEONE	-	-	-	-	-	-	-	-	-	-	105.0
SOMALIA	-	-	-	-	-	-	-	-	-	-	23.2
SUDAN	1.60	-	0.48	-	1.80	-	-	-	-	-	39.3
SWAZILAND	-	-	-	-	-	-	-	-	-	-	7.4
TANZANIA	-	-	-	-	-	-	-	-	-	-	100.0
TOGO	0.60	-	-	-	-	-	-	-	-	-	21.7
UGANDA	0.40	-	-	-	-	-	-	-	-	-	16.3
ZAIRE	-	0.30	-	-	-	-	-	-	-	-	229.8
ZAMBIA	-	-	-	-	-	-	-	-	-	-	87.9
ZIMBABWE	-	-	-	-	-	-	-	-	-	-	84.6
EAST/SOUTHERN AFRICA	-	-	-	-	-	-	-	-	-	-	43.9
EQUATORIAL AFRICA	-	-	-	-	-	-	-	-	-	-	39.8
HUMID WEST AFRICA	-	-	-	-	-	-	-	-	-	0.54	181.2
SEMI ARID WEST AFRIC	-	-	-	-	-	-	-	-	-	0.54	121.4
EAST & CENTRAL AFRIC	-	-	-	-	-	-	-	-	-	0.54	4.7
ALL SUB SAHARAN AFRI	-	-	-	-	-	-	6.00	-	-	-	876.9
TOTAL	7	1	0.5	1	2	12	6	3	12	15	2006

TABLE 12

COLLABORATIVE ACTIVITIES BY CENTER

This series of tables; 12-A through 12-M; presents the collaborative activities of each Center separately by activity code. For each major activity code, the table lists: the number of collaborative activities, the number of person months involved, and the degree of collaboration in each of the four 4 stages of CGIAR activities, (1) design, (2) execution, (3) analysis, and (4) evaluation. The varying degrees of collaboration is specified for each of the major types of collaboration: Center/NARS, Center/University, and Center/Center. The measure of "collaboration" is the percentage of the design, execution, analysis, and evaluation effort, within each activity, that is reported as having been carried out by the IARC vis-a-vis other potential collaborators. If a Center reports that it conducts 100 percent of the design, execution, analysis, and evaluation of an activity, then no "collaboration" is considered to have taken place.

[illegible][illegible][illegible][illegible]

Table 12c Collaborative person months by Activity Code for ILARDA

[illegible]

Table 12f Collaborative person months by Activity Code for ICRISAT

[illegible]

Activity Code	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385
---------------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

[illegible]

Table 12h Collaborative person months by Activity Code for ILTA

Act Code	Nr Activities involving this activity code	Nr Involved in any collaboration	Total Person months for this code	Person Months (involving any collaboration)	Avg Pts devoted to this code	Work done by Center				Act Code	Work done by NARI				Work done by UNW				Work done by Other EG Centers				
						Design	Execution	(Avg % in each phase) Analysis	Evaluation		Design	Execution	(Avg % in each phase) Analysis	Evaluation	Design	Execution	(Avg % in each phase) Analysis	Evaluation	Design	Execution	(Avg % in each phase) Analysis	Evaluation	
1 0	5	5	27 51	31 12	5 50	70 00	64 00	76 00	96 00	1 0	8 00	16 00	4 00	4 00	16 00	20 00	20 00	-	4 00	-	-	-	-
2 1	5	5	40 00	40 50	8 00	86 00	86 00	94 00	78 00	2 1	2 00	4 00	-	4 00	-	-	-	-	-	-	-	-	-
2 2	4	2	22 85	18 00	5 71	95 00	100 00	100 00	95 00	2 2	-	-	-	-	-	-	-	-	-	-	-	-	-
2 4	1	-	4 00	-	4 00	-	100 00	100 00	100 00	2 4	-	-	-	-	-	-	-	-	-	-	-	-	-
3 1	34	33	495 79	494 25	14 58	76 76	68 82	82 21	67 06	3 1	8 68	20 74	11 21	12 79	1 09	2 94	2 18	2 35	7 12	3 68	2 50	5 29	-
3 2	14	13	186 90	175 23	13 35	90 00	86 14	74 32	76 34	3 2	5 00	13 64	2 50	9 64	1 43	1 79	2 07	2 07	1 00	2 14	1 43	1 43	-
3 3	4	1	45 80	10 00	11 45	95 00	90 00	88 75	3 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 4	19	17	170 20	155 10	8 96	84 74	77 37	83 68	78 95	3 4	8 42	16 32	9 47	7 89	2 63	4 21	4 21	3 16	1 58	-	1 05	2 63	-
3 5	1	4	8 24	8 80	2 06	85 00	78 75	92 50	75 00	3 5	5 00	10 00	5 00	10 00	-	-	-	-	-	-	-	-	-
5 1	7	6	78 00	68 00	11 14	72 86	68 57	80 71	70 71	5 1	-	-	-	-	-	-	-	-	-	-	-	-	-
5 2	1	-	3 30	-	3 30	100 00	100 00	100 00	100 00	5 2	-	-	-	-	-	-	-	-	-	-	-	-	-
5 3	2	-	21 60	-	10 80	100 00	100 00	100 00	100 00	5 3	-	-	-	-	-	-	-	-	-	-	-	-	-
5 4	7	5	65 00	33 50	9 29	85 00	80 00	92 86	88 57	5 4	-	-	-	-	-	-	-	-	-	-	-	-	-
6 1	3	-	5 10	-	1 70	100 00	100 00	100 00	100 00	6 1	-	-	-	-	-	-	-	-	-	-	-	-	-
6 2	4	1	29 70	10 30	7 42	95 00	96 25	99 75	99 75	6 2	-	-	-	-	-	-	-	-	-	-	-	-	-
6 4	3	1	11 00	6 00	3 67	93 33	90 00	96 67	93 33	6 4	-	-	-	-	-	-	-	-	-	-	-	-	-
7 1	2	0	2 50	-	1 25	100 00	100 00	100 00	100 00	7 1	-	-	-	-	-	-	-	-	-	-	-	-	-
9 1	14	12	86 92	80 00	6 21	62 86	62 86	62 86	62 86	9 1	5 00	29 29	1 36	4 71	0 71	2 14	-	0 29	-	-	-	-	-
9 4	20	11	63 40	45 40	3 17	78 00	76 25	85 00	77 50	9 4	0 50	-	-	-	16 50	19 50	13 50	19 50	0 50	0 50	2 50	19 00	-
11 0	4	4	16 00	16 00	4 00	45 00	35 00	40 00	45 00	11 0	40 00	60 00	57 50	40 00	-	-	-	-	15 00	5 00	-	2 50	19 00
12 1	2	2	24 05	24 05	12 03	70 00	55 00	80 00	70 00	12 1	30 00	35 00	20 00	27 50	-	-	-	-	-	-	-	-	-
12 2	2	-	16 20	-	8 10	100 00	100 00	100 00	100 00	12 2	-	-	-	-	-	-	-	-	-	-	-	-	-
12 3	2	-	43 20	-	21 60	100 00	100 00	100 00	100 00	12 3	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	172	124	1488	1224																			

Table 121 Collaborative person months by Activity Code for ILCA

[illegible]

Table 12j Collaborative person months by Activity Code for ILRAD

[illegible]

c 124 Collaborative person months by Activity Code for IRR1

[illegible]

e 12) Collaborative person months by Activity Code for ISMAR

[illegible]

e 12m Collaborative person months by Activity Code for WARDA

[illegible]

ANNEX II

LIST OF COMMODITIES TARGETED BY THE CGIAR IN SUB-SAHARAN AFRICA

CROPS

Bambara Ginuby
Banana
Barley
Cassava
Cereals
Chickpea
Coconut
Cocoyam
Common Beans
Cowpea
Eggplant
Faba Bean
Fallow Species
Forages
Grain Legumes
Groundnut
Horticultural Crops
Lentil
Maize
Millet
Okra
Phaseolus Bean
Pigeonpea
Plantain
Potato
Rice
Roots and Tubers
Sorghum
Soybean
Sugar Cane
Sweet Potato
Tea
Triticale
Wheat
Winged Bean
Yam

OTHER

Livestock
Wildlife
Theileriosis
Trypanosomiasis

ANNEX III

CGIAR ACTIVITY QUESTIONNAIRE

Questionnaire

Guidelines for Completing the Questionnaires

List of Activity Codes

Definitions of Activity Codes

CODE NO.	ACTIVITY CODES	ANNEX III-C
1.0	<u>Plant Genetic Resources: Collection, Characterization, Conservation.</u>	
2.0	<u>Natural Resources Research</u>	
2.1	Water conservation and management.	
2.2	Soil conservation and management.	
2.3	Agroclimatology	
2.4	Agroecological characterization.	
3.0	<u>Crop Productivity Research</u>	
3.1	Germplasm enhancement: plant breeding/improvement, international testing (distribution and exchange of breeding materials).	
3.2	Plant protection.	
3.3	Plant nutrition.	
3.4	Crop production (including agronomy and cropping systems).	
3.5	Seed production.	
4.0	<u>Livestock Productivity Research</u>	
4.1	Livestock disease.	
4.2	Livestock nutrition.	
4.3	Livestock reproduction.	
4.4	Livestock production: pastures, rangeland development.	
5.0	<u>Crop/Livestock Production Systems Research</u>	
5.1	Crop production systems.	
5.2	Livestock production systems.	
5.3	Farm machinery tools.	
5.4	Socio-economic analysis.	
6.0	<u>Commodity Conversion and Utilization Research</u>	
6.1	Storage.	
6.2	Processing (food and feed).	
6.3	By-product utilization.	
6.4	Market and consumer preference studies.	
7.0	<u>Human Nutrition Linkages.</u>	
7.1	Nutrition and consumption analysis.	
7.2	Monitoring of nutritional quality.	
8.0	<u>Policy Research</u>	
8.1	Policy analysis (global and national)	
8.2	Market analysis (trade, prices)	
8.3	Analysis of research productivity (cost effectiveness and relevance to client needs).	
9.0	<u>Human Resource Enhancement (Training)</u>	
9.1	Assessment of training needs.	
9.2	Production of training materials.	
9.3	Production training.	
9.4	Postgraduate and specialized research training.	
9.5	Research management training.	
9.6	Training of trainers.	
10.0	<u>Institution Building</u>	
10.1	Research on research organization and management.	
10.2	Advisory services to NARS	
10.3	Technical assistance.	
11.0	<u>Collaborative Research Networks</u>	
12.0	<u>Transfer of Technology and Research Methods</u>	
12.1	Conferences and seminars.	
12.2	Documentation and library.	
12.3	Dissemination of information and materials.	

ANNEX III-D
DEFINITION OF ACTIVITIES

The following definitions given as an aid to classifying a Center's activities are drawn from the matrix developed by the Center Directors. For purpose of inventory please use code no. attached for each activity.

1. Plant Genetic Resource Conservation and Management

Activities directed to: the acquisition, characterization and conservation varieties of agriculturally useful plant genetic materials e.g. seeds and/or tissues of wild and weedy relatives, land races, and primitive, the maintenance of such stocks (multiplication of samples, regeneration of stocks, routine evaluation etc.) through the operation of germplasm banks; research activities directed to conservation techniques, analysis of genetic diversity patterns, etc.

2. Natural Resources Research

Activities contributing to the long term conservation and management of the productive base for agriculture; research activities directed to soil and water conservation and management; collection and analysis of climatological data; analysis of information in order to define and map agro-ecological zones. Activities directed primarily to management of the village, or watershed level, or agroecological zone (specific mandated commodities not necessarily the only beneficiaries).

3. Crop Productivity Research

Activities directed to prebreeding, widecrossing, production of parental materials, breeding lines, finished varieties, evaluation of breeding materials, international trials, distribution and exchange of breeding materials (not primitive germplasm - see 1 above); research into problems of plant nutrition; plant protection; agronomy development of improved crop related technologies; i.e., all the activities directed to the improvement of productivity of individual mandated crops, maintenance of nutritional quality of new varieties, and utilization of requisite disciplines for strategic and/or basic research into common factors of production.

4. Livestock Productivity Research

Activities directed to the production of livestock e.g. disease research; nutrition; reproduction; production including pasture research and rangeland development, including the relevant disciplines for undertaking such research activities.

5. Crop/Livestock Production Systems Research

Activities directed to the improvement of whole farm productivity and therefore to improving systems of crop production (multiple, relay cropping etc.): the integration of crop and livestock production systems; alley cropping or other novel technologies. Improvement of farm machinery and tools; socio-economic analysis of production systems research; production of elite seed materials their certification and release are also included.

ANNEX III-D
DEFINITION OF ACTIVITIES

6. Commodity Conversion and Utilization Research

Activities directed to: development of improved methods of treating commodities to reduce losses during farm or village level storage, and within the marketing system; improvement of the quality, marketability, acceptability and convenience of human foods by post-harvesting handling/processing; preparation of basic ingredients for animal feed formulations; and development of novel methods for utilization of excess agricultural production and/or production by-products.

7. Human Nutrition Linkages

Activities directed to the analysis of human nutritional needs and food consumption patterns; the socio-economic factors which influence food acquisition, utilization and nutritional status especially in low income families; and related concerns.

8. Policy Research

Activities directed to the analysis of global and/or national policies in relation to national agricultural production; food security and equal access to food by all sectors of the population, labour productivity, and issues of trade and prices as they affect markets.

Activities directed to: ex-post analysis of research productivity, i.e. the impact of technological, policy, or institutional innovations; ex ante forecasting of the likely impact new innovations (cost effectiveness, relevance to clients needs etc.)

9. Human Resource Enhancement (Training)

Activities directed to training (group and individual), and to the production of training materials, and assessment of training needs.

10. Institution Building

Activities directed to providing advisory services to NARS on agricultural research problems, agricultural research management, research on research organization and management, and to technical assistance (helping NARS to perform essential research functions) and thereby building national capacity.

11. Research Networks and other collaborative activities

Activities contributing to support and/or organization of research networks, monitoring tours and to inter-organization collaboration.

12. Transfer of technology and research methods

Activities directed to library, documentation, and dissemination of information (whether in printed, electronic or other form); and to conferences, workshops and seminars and other means of ensuring inter-institutional flows of information.

ANNEXES IV and V

SUB-SAHARAN AFRICA: COUNTRIES, REGIONS AND INDICATORS

Annexes IV and V provide a list of the countries included in the study, the way that TAC has classified them into regions, and indicators of economic and agricultural growth for each country.

Data have been drawn from the World Development Report 1985, (World Bank) and from the Encyclopaedia Britannica (1986 Annual Volume).

Countries in Sub-Saharan Africa, as defined in the TAC list, comprise 412 Million people and cover an area of 22,240,000 km².

ANNEX IV
SUB-SAHARAN AFRICAN COUNTRIES AND TAC REGIONS

COUNTRIES	TAC BREAKDOWN OF REGIONS	Population (millions)	Area ₂ (1000/km ²)	Density (Pop/km ²)
1. Angola	1. <u>East/South Africa</u>	89.3	5486	16.3
2. Benin	- Angola	9.9	1247	
3. Botswana	- Botswana	1.0	600	
4. Burkina Faso	- Kenya	19.6	583	
5. Burundi	- Lesotho	1.5	30	
6. Cameroon	- Malawi	6.8	118	
7. Central African Rep.	- Mozambique	13.4	802	
8. Chad	- Swaziland	.6	17	
9. Congo	- Tanzania	21.5	945	
10. Ethiopia	- Zambia	6.4	753	
11. Gabon	- Zimbabwe	8.1	391	
12. Gambia				
13. Ghana	2. <u>Equatorial Africa</u>	81.6	4960	16.4
14. Guinea	- Burundi	4.6	28	
15. Guinea-Bissau	- Cameroon	9.9	475	
16. Ivory Coast	- Central African Rep.	2.5	623	
17. Kenya	- Congo	1.8	342	
18. Lesotho	- Equatorial Guinea	.3	28	
19. Liberia	- Gabon	1.2	268	
20. Madagascar	- Madagascar	9.9	587	
21. Malawi	- Mauritius	1.0	2	
22. Mali	- Rwanda	5.8	26	
23. Mauritania	- Sao Tome & Principe	.1	1	
24. Mauritius	- Uganda	15	236	
25. Mozambique	- Zaïre	29.7	2345	
26. Niger				
27. Nigeria	3. <u>Humid West Africa</u>	40.7	1160	35.1
28. Rwanda	- Benin	3.9	113	
29. Senegal	- Ghana	12.3	239	
30. Sierra Leone	- Guinea	5.9	246	
31. Somalia	- Ivory Coast	9.9	322	
32. Sudan	- Liberia	2.1	111	
33. Swaziland	- Sierra Leone	3.7	72	
34. Tanzania	- Togo	2.9	57	
35. Togo				
36. Uganda	4. <u>Semi-Arid West Africa</u>	132.0	6267	21.0
37. Zaïre	- Burkina Faso	6.6	274	
38. Zambia	- Cape Verde	.3	4	
39. Zimbabwe	- Chad	4.9	1284	
40. Equat. Guinea	- Gambia	.7	11	
41. Cape Verde	- Guinea Bissau	.9	36	
42. Sao Tome & Principe	- Mali	7.3	1240	
	- Mauritania	1.7	1031	
	- Niger	6.2	1267	
	- Nigeria	96.5	924	
	- Senegal	6.4	196	
	5. <u>East and Central Africa</u>	68.7	4366	15.7
	- Ethiopia	42.2	1222	
	- Sudan	21.3	2506	
	- Somalia	5.2	638	

ANNEX V

SUMMARY OF INDICATORS FOR SUB-SAHARAN COUNTRIES

TAC BREAKDOWN OF REGIONS	Est. Population (millions) year 2000	GNP Per Capita (US\$) 1983	GNP Per Capita Growth Rates 1980-84	Growth Per Capita Food Prod. (%) 1980-84
1. <u>East/South Africa</u>				
- Angola	13.2	-	-6.1	-2.2
- Botswana	1.8	920	4.8	0.7
- Kenya	36.5	340	-1.8	-2.0
- Lesotho	2.2	460	-0.8	-3.8
- Malawi	11.4	210	-0.8	-0.7
- Mozambique	21.7	-	-5.1	-3.9
- Swaziland	11.0	580	-2.9	-2.4
- Tanzania	36.9	240	-6.5	-3.4
- Zambia	11.0	580	-2.9	-2.4
- Zimbabwe	14.3	740	-2.0	-7.9
2. <u>Equatorial Africa</u>				
- Burundi	7.4	240	-0.9	-3.0
- Cameroon	16.6	820	2.9	-2.1
- Central African Rep.	4.0	280	-2.3	-1.2
- Congo	3.4	1,230	6.4	-1.7
- Equatorial Guinea				
- Gabon	1.2	3,950	-0.4	0.03
- Madagascar	16.2	310	-5.7	-0.5
- Mauritius	1.4	1,160	2.2	1.7
- Rwanda	10.2	270	1.4	-1.2
- Sao Tome & Principe				
- Uganda	24.6	220	-7.4	0.7
- Zaïre	49.9	170	-2.7	0.6
3. <u>Humid West Africa</u>				
- Benin	6.5	290	-0.1	0.5
- Ghana	23.1	310	-5.4	-0.8
- Guinea	8.3	300	-0.4	1.2
- Ivory Coast	17.3	710	-6.5	-1.5
- Liberia	3.5	480	-4.9	-1.9
- Sierra Leone	5.4	330	-2.0	-2.7
- Togo	4.9	280	-	-3.2
4. <u>Semi-Arid West Africa</u>				
- Burkina Faso	9.2	180	-3.1	-2.1
- Cape Verde				
- Chad	7.3	80	-16.0	-4.2
- Gambia	1.1	290	2.6	2.7
- Guinea Bissau	1.2	180	1.3	7.1
- Mali	11.2	160	-1.2	-1.6
- Mauritania	2.6	480	-0.8	-3.4
- Niger	10.5	240	-6.6	-5.7
- Nigeria	162.7	770	-6.5	-1.6
- Senegal	10.1	440	2.0	2.9
5. <u>East and Central Africa</u>				
- Ethiopia	63.7	120	-0.1	-3.9
- Sudan	33.4	400	-2.2	-3.6
- Somalia	8.5	250	1.8	-4.1

ANNEX II

LIST OF COMMODITIES TARGETED BY THE CGIAR
IN SUB-SAHARAN AFRICA

CROPS

Bambara Ginuby
Banana
Barley
Cassava
Cereals
Chickpea
Coconut
Cocoyam
Common Beans
Cowpea
Eggplant
Faba Bean
Fallow Species
Forages
Grain Legumes
Groundnut
Horticultural Crops
Lentil
Maize
Millet
Okra
Phaseolus Bean
Pigeonpea
Plantain
Potato
Rice
Roots and Tubers
Sorghum
Soybean
Sugar Cane
Sweet Potato
Tea
Triticale
Wheat
Winged Bean
Yam

OTHER

Livestock
Wildlife
Theileriosis
Trypanosomiasis

ANNEX III

CGIAR ACTIVITY QUESTIONNAIRE

Questionnaire

Guidelines for Completing the Questionnaires

List of Activity Codes


Definitions of Activity Codes



INTERNAL MEMORANDUM

15 December 1986

TO: Center Directors

FROM: Alexander von der Osten 

SUBJECT: Revised Inventory of CGIAR Activities in Sub-Saharan Africa (1986)

Further to requests made at the Center Directors meeting in Washington this year, I enclose a set of revised questionnaires on CGIAR activities in Sub-Saharan Africa.

The original questionnaire provided a basic framework for studying CGIAR activities and much useful information. This was summarized in a report presented to the Center Directors. However, during the meetings in Washington, additional questions were raised about the nature of CG-NARS interactions and allocation of resources to particular countries and commodities. Due to the importance of and interest in the study, ISNAR has accepted the responsibility for gathering the additional required information.

We are pleased to send you revised questionnaires designed to answer the additional questions and to clarify certain parts of the original questionnaire. The basic questionnaire is the same; the major differences result from the need to prorate the resources that are allocated to activities that benefit more than one country or are targeted at more than one commodity. All prorating of activities should be done on the basis of person-months effort devoted to the activity.

In order to ensure consistent information from all Centers, please use the enclosed questionnaires for reporting all activities. All questions have been fully explained in the enclosed guidelines.

Finally, for all Centers, we need to know the total number of senior scientist person-months available for all Center work. These person-months include not only senior staff but all consultants funded by or through the Center.

We have enclosed copies of all of your original activity sheets to facilitate completing the revised questionnaires.

INTERNATIONAL SERVICE FOR NATIONAL AGRICULTURAL RESEARCH

Headquarters
Oranie Buitensinger 6
2511 XF The Hague

Correspondence
P.O. Box 93375
2509 A1 The Hague

Communications
Telephone 070-472991
Telex 13716

As much of the work required to complete these questionnaires has already been completed, we hope to receive your replies by January 20, 1987. Should any aspects of the revised questionnaire need clarification, please contact us as soon as possible.

Your continued cooperation is highly appreciated in this endeavor.

Distribution: Dr. John Nickel, CIAT
 Dr. Donald L. Winkelmann, CIMMYT
 Dr. Richard L. Sawyer, CIP
 Dr. J. Trevor Williams, IBPGR
 Dr. Mohamed A. Nour, ICARDA
 Dr. Leslie D. Swindale, ICRISAT
 Dr. John W. Mellor, IFPRI
 Dr. Laurence D. Stifel, IITA
 Dr. John Walsh, ILCA
 Dr. A. R. Gray, ILRAD
 Dr. M. S. Swaminathan, IRRI
 Mr. Alieu Jagne, WARDA

JS/svdw

CGIAR ACTIVITIES IN SUB-SAHARAN AFRICA

ACTIVITY QUESTIONNAIRE	CENTER: _____ DATE: _____ QUESTIONNAIRE No: _____
------------------------	---

1. ACTIVITY DESCRIPTION: _____

2. TARGETED COMMODITY, if applicable (Maximum 5) *: (If more than one, please prorate by percent of person-months effort devoted to each.)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 2px;">Commodity</th> <th style="text-align: center; padding: 2px;">%</th> </tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr> <th style="text-align: left; padding: 2px;">Code</th> <th style="text-align: center; padding: 2px;">%</th> </tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr> <th style="text-align: left; padding: 2px;">Country</th> <th style="text-align: center; padding: 2px;">%</th> </tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> <tr><td style="height: 15px;"></td><td></td></tr> </table>	Commodity	%											Code	%											Country	%										
Commodity	%																																				
Code	%																																				
Country	%																																				
3. ACTIVITY CODE from attached list (Maximum 2) *: (If more than one, please pro-rate.)																																					
4. TARGETED COUNTRY from attached list (Maximum 5) *: (If more than one, please pro-rate.)																																					

TOTAL PERSON-MONTHS AND FUNDING OF PERSON-MONTHS DEVOTED TO THIS ACTIVITY
 (Only count Person-Months expended in 1986)

	PERSON-MONTHS	FUNDING SOURCE %
		Institution
5. AT CENTER HEAD-QUARTERS:		
6. AT SUB-CENTER (If applicable):		
7. IN TARGETED COUNTRY, NOT AT CENTER:		
8. IN OTHER LOCATIONS:		
9. TOTAL PERSON-MONTHS ON ACTIVITY:		
10. PERCENTAGE OF PERSON MONTHS THAT ARE CONSULTANTS:	%	

11. CHARACTERISTICS OF ACTIVITY (Operational Methods):			
	% ALLOCATION		% ALLOCATION
RESEARCH		TECHNICAL ASSISTANCE	
TRAINING		CONFERENCES/SEMINARS	
ADVISORY SERVICES		INFORMATION DISSEMINATION	

If this Activity encompasses more than 1 Activity Code, Targeted Country, or Commodity, you must prorate the person-months across the various Codes, Countries, Commodities, and/or other categories.

12. IF A TRAINING ACTIVITY, HOW MANY PARTICIPANTS FROM AFRICA?:

13. WHERE WAS THE TRAINING?:

AT THE CENTER HEADQUARTERS

AT THE SUB-CENTER

IN TARGET COUNTRY, NOT AT CENTER

AT OTHER LOCATIONS

14. NAMES OF THE PRINCIPAL SCIENTIFIC COLLABORATING INSTITUTIONS FOR THIS ACTIVITY

	<u>Name of Organization(s)</u>
National Agricultural Research Institute (NARI)	<input type="text"/>
Other National Institute/Organizations (ONI)	<input type="text"/>
University (UNV)	<input type="text"/>
Other CGIAR Center (OCG)	<input type="text"/>
Non-CGIAR Agricultural Research Center (NCG)	<input type="text"/>
Bilateral Donor Executing Agency (BIL)	<input type="text"/>
Multilateral Donor Executing Agency (MUL)	<input type="text"/>
Private Sector Company or Organization (PRI)	<input type="text"/>

15. WHO CARRIES OUT THE FOLLOWING FUNCTIONS IN THIS ACTIVITY?:

(Please prorate by collaborator to each function)*

	Design	Execution	Analysis of Results	Evaluation of Activity
NARI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ONI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
UNV	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
OCG	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
NCG	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
BIL	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MUL	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
PRI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

16. Is this Activity funded as part of:

YES NO

A CENTER program

A NARS institution-building project

(CENTER as a contractor)

A National development project

(CENTER as a contractor)

17. Start date of activity (dd/mm/yy): Finish date of activity (dd/mm/yy):

Is this event repeated annually?:

YES NO

* If more than 1 organization contributes to the various functions in the activity please pro-rate the contribution across the various organizations. List only significant contributions.

CGIAR ACTIVITIES IN SUB-SAHARAN AFRICA

Guidelines for completing the Activity Questionnaires.

Notes on the revised Questionnaire.

The original activity questionnaire completed by the CGIAR Centers and other IARCs has been modified in order to collect the additional information required to answer questions raised during the Center Directors meeting in Washington.

The basic questionnaire is the same; the major differences result from the need to prorate the resources allocated to activities that benefit more than one country or are targeted at more than one commodity. All prorating of activities should be done on the basis of person-months effort devoted to the activity. Of course, as before, we are interested in only those Center activities IN or FOR Sub-Saharan Africa.

The concept of person-months effort devoted to an activity allows a common measure of the relative importance and intensity of involvement in the activity. This permits not only a comparison of the scale of various activities but a way to prorate the activity across commodities and countries involved. Person-months includes all senior staff and consultants funded by or through the Centers. For example, a Senior Research Scientist working at the Center for Rwanda counts in the same way as a Consultant working in Rwanda on a Center administered project funded by a special project. However, the consultant would be reported as Person-months in the Targeted Country while the Senior Research Scientist would be reported as Person-months at the Center.

We emphasize once again that the actual number of activities is not used as a measure of commitment. Therefore, whenever possible, please report large or complex projects as multiple activities. The more disaggregated the data we receive, the more useful the analysis we will be able to perform.

Use the Questionnaire Number you have assigned at the top of each questionnaire (not the Activity Code of the survey) to indicate that two or more sheets refer to the same activity. Remember, when splitting up activities you must apportion the person-months effort devoted to the activity so that the total is not double-counted.

Explanatory notes for each question are presented below. First, the purpose of the information requested is described. Second, examples and detailed explanations are given. **Please read all of the explanatory notes, referring to the numbered questions before completing the questionnaires.**

A list of the Activity codes used to describe CGIAR activities is attached as is a list of countries of Sub-Saharan Africa.

ACTIVITY QUESTIONNAIRE

Each Center has been sent questionnaires with that Center's name in the top left hand corner of the sheet. For purposes of identification in any future correspondence, a space for the Questionnaire number has also been provided. Please number the activities consecutively. When one activity has been broken up among two or more sheets, please indicate this using the Questionnaire number (i.e. Questionnaire No: 2.1 and Questionnaire No: 2.2). A space has also been provided for the date of the completion of the questionnaire. All Centers are strongly urged to use the questionnaires provided (or photocopies) to report all activities in a consistent manner.

QUESTIONS

1. ACTIVITY DESCRIPTION

Purpose: This allows us to clearly reference specific activities when conferring with the Centers and other organizations and to describe activities as they are known to each Center.

Notes: The description should be short (60 characters or less), indicative of the actual function of the activity, and consistent with the Center's internal nomenclature.

Example: Regional Maize/Bean Inter-cropping Research Project.

2. TARGETED COMMODITY

Purpose: Allows calculations of the total commitment of CGIAR Institutes to each of the various commodities and the share of each Center in that work.

Notes: If a given activity is directed at a number of specific commodities, please prorate the person-months effort of the activity to the various commodities. If more than 5 commodities are targeted, consider breaking up the activity onto two or more sheets. As a last resort, use a commodity grouping, eg. grain legumes.

Example: Regional Maize/Bean Inter-cropping Research Project.

2. TARGETED COMMODITY:

Commodity	%
Maize	75
Beans	25

3. ACTIVITY CODE

Purpose: The activity code allows grouping of Center activities into large functional or descriptive areas. By functional areas we mean the focus or objective of the activity according to the CGIAR activity codes. Use the attached abbreviated list of CGIAR activity codes and descriptions for this purpose. The activity code does not refer to method by which the activity is carried out.

Notes: If an activity does not fall neatly into only one of the Activity code categories on the attached list, we ask you to prorate the activity to 2 codes. If the activity really requires more than 2 codes to describe its function, consider reporting the activity on two questionnaires, splitting up the resources as appropriate.

Example: Regional Maize/Bean Inter-cropping Research Project.

Code	%
3.4	80
9.4	20

4. TARGETED COUNTRY

Purpose: This allows a description of the regional breakdown of Center activities.

Notes: The 'Targeted Country' is the country toward which the activity is directed, that is, the primary direct beneficiary of the activity. If more than one country is targeted, we ask you to pro-rate the activity over the countries. If more than 5 countries are targeted, consider reporting the activity on 2 or more sheets. Since the total number of activities is not used as a measure, multiple activity sheets do not bias the results but do allow us to identify all direct beneficiaries and the share of your resources imputable to them. You should use regions only as a last resort.

The targeted country has the activity explicitly directed towards that country, not simply one that may receive incidental benefits. Note also, that the location of the activity does not always identify the targeted countries, particularly with Center-based activities.

Example: Regional Maize/Bean Inter-cropping Research Project.

Country	%
Burundi	40
Zaire	60

5. - 10. PERSON-MONTHS DEVOTED TO THE ACTIVITY.

Purpose: This information is used to represent the magnitude of resource commitments to the activity, describe where the activity takes place, and identify the funding sources. This permits an analysis of the regional and functional emphasis of both the Centers and the Donors.

Notes: Questions 5 through 8 request the total person-months devoted to the activity showing differences that may occur in the location of the activity. If an activity occurs completely at Center Headquarters only question 5 must be completed (Question 9, Total Person-Months, serves as a consistency check and should equal the sum of answers 5 - 8). Question 10 asks for an estimation of the percentage of the total person-months that have been supplied by consultants. All person-months reported for an activity should have occurred during 1986.

The funding source will be either the Center itself or another institution. If there are multiple donors to one activity, we ask you to prorate the funding across the donors. If a donor, for instance, funds only that portion of an activity that occurs in a targeted country but not at the Center, list that donor only under question 7.

Example: Regional Maize/Bean Inter-cropping Research Project.

		Funding Source	
Person-Months		Institution	%
5. AT CENTER HEAD-QUARTERS:	16	Center	100
6. AT SUB-CENTER (If applicable):			
7. IN TARGETED COUNTRY, NOT AT CENTER:	20	World Bank	50
		Center	50
8. AT OTHER LOCATIONS:			
9. Total Person Months:		36	
10. Percentage of Person Months that are Consultants:		10	%

The term person-months includes all senior staff and consultants funded by or through the Centers. For example, a Senior Research Scientist working at the Center but for Rwanda counts in the same way as a Consultant working in Rwanda but for a Center administered project funded by a special project. However, the consultant would be reported as Person-months in the Targeted Country while the Senior Research Scientist would be reported as Person-Months at the Center.

11. CHARACTERISTICS OF ACTIVITY (Operational Methods).

Purpose: This information allows the initial analysis of the broad operational methods that the centers use for the various activities. Operational methods refers to the general approaches or techniques used by the Centers to conduct the activity.

Notes: The operational methods employed in the activity in Question 11 are distinct from the Activity Codes in Question 3, which describe the basic purpose of the activity. These operational methods are:

RESEARCH - refers to the 'discovery and/or development of new knowledge or technology';

TRAINING - refers to training courses, study tours, etc.;

ADVISORY SERVICES - 'assisting NARS through the provision of advice and counsel (both in the biological sciences and organization and management);

TECHNICAL ASSISTANCE - 'assisting NARS in the conduct of essential research functions';

CONFERENCES/SEMINARS - forums for discussion among the partners in the Global System (IARCs, NARS, other specialized institutions)

INFORMATION DISSEMINATION - refers to publications, newsletters, abstracting services, etc.

If the activity involves more than one of these methods, please prorate the person-months of effort.

Example: Training Workshop on Maize/Bean Productivity Research.

11. CHARACTERISTICS OF ACTIVITY (Operational Methods):

	% ALLOCATION		% ALLOCATION
RESEARCH	<input type="text"/>	TECHNICAL ASSISTANCE	<input type="text"/>
TRAINING	<input type="text" value="70"/>	CONFERENCES/SEMINARS	<input type="text"/>
ADVISORY SERVICES	<input type="text"/>	INFORMATION DISSEMINATION	<input type="text" value="10"/>

12. IF A TRAINING ACTIVITY, HOW MANY PARTICIPANTS FROM AFRICA?

Purpose: This question should only be filled out if some part of the activity has been described as training in the previous question. The information permits calculations of the actual numbers of people working in Africa receiving training through CGIAR activities in or for Sub-Saharan Africa in 1986.

13. WHERE WAS THE TRAINING?

Purpose: Again, this question is only relevant if the activity is at least partly training as described in question 10. This will be used to describe where the training for various types of activities occurs.

Notes: The possible locations for the training are the same as the locations for the activity as a whole. If the training was conducted in more than one location, prorate the training (by total person-months of effort) to the various locations. Alternatively, you may report training at each location as a separate activity and show the person-months specifically allocated to that disaggregated activity.

Example:

13. WHERE WAS THE TRAINING?:	AT THE CENTER HEADQUARTERS	<input type="text" value="90"/>
	AT THE SUB-CENTER	<input type="text"/>
	IN TARGET COUNTRY, NOT AT CENTER	<input type="text" value="10"/>
	AT OTHER LOCATIONS	<input type="text"/>

14. NAMES OF THE PRINCIPAL SCIENTIFIC COLLABORATING INSTITUTIONS FOR THIS ACTIVITY

Purpose: This information will be used to determine the patterns of collaboration among the different organizations and how those patterns vary depending on the type of research.

Notes: Only the names of the principal scientific collaborating Institutions should be listed. If no significant collaboration exists, leave the space blank. One obvious objective is to analyze collaboration between CGIAR Centers; ideally, both Centers should report the collaborative activity. You should only include donors who fund activities as collaborators if they participate at a technical level.

15. WHO CARRIES OUT THE FOLLOWING FUNCTIONS OF THIS ACTIVITY?

Purpose: This is used to determine the patterns of cooperation of the Centers with NARS in the different activities, different commodities, an different locations.

Notes: Under each function, please prorate the contribution of all that apply. The first line is your Center. In many cases the Center will be involved in all of the functions of the activity. The last column, Evaluation of Activity, refers to the final evaluation of the success or value of the activity. A Center will have a

larger or smaller role in the design, execution, analysis, and evaluation of activities according to the state of the National Research System, the degree of technical sophistication of the activity, and the commodity involved. It is the differences among activities which gives this question analytical meaning. We do not seek a declaration of a 50-50 partnership with NARS in all activities. Indeed, only instances of significant participation should be noted.

16. IS THIS ACTIVITY FUNDED AS PART OF: YES NO
A CENTER program ☐ ☐
A NARS institution-building project (CENTER as a contractor) ☐ ☐
A National development project (CENTER as a contractor) ☐ ☐

Purpose: This information is used to permit analysis of the nature of the funding for different activities. A research activity whose funds come from the Center for a Center-initiated activity may have different characteristics from ones which are solicited by a NARS and funded from an institutional development loan, a commodity production project, or other national development project.

Notes: The first choice is for projects that are directed by the Center. The activity could be the whole project or simply a small part of a larger project. The other choices indicate that the Center is performing essentially a contracting job for some other institution.

17. START DATE OF ACTIVITY (dd/mm/yy). _____
FINISH DATE OF ACTIVITY (dd/mm/yy). _____
IS THIS EVENT REPEATED ANNUALLY? YES NO
☐ ☐

Purpose: Used to describe whether the activity is part of a multi-year project or is a single event.

Notes: If the activity is a multi-year activity that may not be repeated in the future, use the actual start and finish dates for the whole project. Note, however, that the person-months reported for the activity should record only those committed in 1986. If the activity is repeated every year on a continuing basis, you should indicate so.

CODE NO.	ACTIVITY CODES	ANNEX III-C
1.0	<u>Plant Genetic Resources: Collection, Characterization, Conservation.</u>	
2.0	<u>Natural Resources Research</u>	
2.1	Water conservation and management.	
2.2	Soil conservation and management.	
2.3	Agroclimatology	
2.4	Agroecological characterization.	
3.0	<u>Crop Productivity Research</u>	
3.1	Germplasm enhancement: plant breeding/improvement, international testing (distribution and exchange of breeding materials).	
3.2	Plant protection.	
3.3	Plant nutrition.	
3.4	Crop production (including agronomy and cropping systems).	
3.5	Seed production.	
4.0	<u>Livestock Productivity Research</u>	
4.1	Livestock disease.	
4.2	Livestock nutrition.	
4.3	Livestock reproduction.	
4.4	Livestock production: pastures, rangeland development.	
5.0	<u>Crop/Livestock Production Systems Research</u>	
5.1	Crop production systems.	
5.2	Livestock production systems.	
5.3	Farm machinery tools.	
5.4	Socio-economic analysis.	
6.0	<u>Commodity Conversion and Utilization Research</u>	
6.1	Storage.	
6.2	Processing (food and feed).	
6.3	By-product utilization.	
6.4	Market and consumer preference studies.	
7.0	<u>Human Nutrition Linkages.</u>	
7.1	Nutrition and consumption analysis.	
7.2	Monitoring of nutritional quality.	
8.0	<u>Policy Research</u>	
8.1	Policy analysis (global and national)	
8.2	Market analysis (trade, prices)	
8.3	Analysis of research productivity (cost effectiveness and relevance to client needs).	
9.0	<u>Human Resource Enhancement (Training)</u>	
9.1	Assessment of training needs.	
9.2	Production of training materials.	
9.3	Production training.	
9.4	Postgraduate and specialized research training.	
9.5	Research management training.	
9.6	Training of trainers.	
10.0	<u>Institution Building</u>	
10.1	Research on research organization and management.	
10.2	Advisory services to NARS	
10.3	Technical assistance.	
11.0	<u>Collaborative Research Networks</u>	
12.0	<u>Transfer of Technology and Research Methods</u>	
12.1	Conferences and seminars.	
12.2	Documentation and library.	
12.3	Dissemination of information and materials.	

ANNEX III-D
DEFINITION OF ACTIVITIES

The following definitions given as an aid to classifying a Center's activities are drawn from the matrix developed by the Center Directors. For purpose of inventory please use code no. attached for each activity.

1. Plant Genetic Resource Conservation and Management

Activities directed to: the acquisition, characterization and conservation varieties of agriculturally useful plant genetic materials e.g. seeds and/or tissues of wild and weedy relatives, land races, and primitive, the maintenance of such stocks (multiplication of samples, regeneration of stocks, routine evaluation etc.) through the operation of germplasm banks; research activities directed to conservation techniques, analysis of genetic diversity patterns, etc.

2. Natural Resources Research

Activities contributing to the long term conservation and management of the productive base for agriculture; research activities directed to soil and water conservation and management; collection and analysis of climatological data; analysis of information in order to define and map agro-ecological zones. Activities directed primarily to management of the village, or watershed level, or agroecological zone (specific mandated commodities not necessarily the only beneficiaries).

3. Crop Productivity Research

Activities directed to prebreeding, widecrossing, production of parental materials, breeding lines, finished varieties, evaluation of breeding materials, international trials, distribution and exchange of breeding materials (not primitive germplasm - see 1 above); research into problems of plant nutrition; plant protection; agronomy development of improved crop related technologies; i.e., all the activities directed to the improvement of productivity of individual mandated crops, maintenance of nutritional quality of new varieties, and utilization of requisite disciplines for strategic and/or basic research into common factors of production.

4. Livestock Productivity Research

Activities directed to the production of livestock e.g. disease research; nutrition; reproduction; production including pasture research and rangeland development, including the relevant disciplines for undertaking such research activities.

5. Crop/Livestock Production Systems Research

Activities directed to the improvement of whole farm productivity and therefore to improving systems of crop production (multiple, relay cropping etc.): the integration of crop and livestock production systems; alley cropping or other novel technologies. Improvement of farm machinery and tools; socio-economic analysis of production systems research; production of elite seed materials their certification and release are also included.

ANNEX III-D
DEFINITION OF ACTIVITIES

6. Commodity Conversion and Utilization Research

Activities directed to: development of improved methods of treating commodities to reduce losses during farm or village level storage, and within the marketing system; improvement of the quality, marketability, acceptability and convenience of human foods by post-harvesting handling/processing; preparation of basic ingredients for animal feed formulations; and development of novel methods for utilization of excess agricultural production and/or production by-products.

7. Human Nutrition Linkages

Activities directed to the analysis of human nutritional needs and food consumption patterns; the socio-economic factors which influence food acquisition, utilization and nutritional status especially in low income families; and related concerns.

8. Policy Research

Activities directed to the analysis of global and/or national policies in relation to national agricultural production; food security and equal access to food by all sectors of the population, labour productivity, and issues of trade and prices as they affect markets.

Activities directed to: ex-post analysis of research productivity, i.e. the impact of technological, policy, or institutional innovations; ex ante forecasting of the likely impact new innovations (cost effectiveness, relevance to clients needs etc.)

9. Human Resource Enhancement (Training)

Activities directed to training (group and individual), and to the production of training materials, and assessment of training needs.

10. Institution Building

Activities directed to providing advisory services to NARS on agricultural research problems, agricultural research management, research on research organization and management, and to technical assistance (helping NARS to perform essential research functions) and thereby building national capacity.

11. Research Networks and other collaborative activities

Activities contributing to support and/or organization of research networks, monitoring tours and to inter-organization collaboration.

12. Transfer of technology and research methods

Activities directed to library, documentation, and dissemination of information (whether in printed, electronic or other form); and to conferences, workshops and seminars and other means of ensuring inter-institutional flows of information.

ANNEXES IV and V

SUB-SAHARAN AFRICA: COUNTRIES, REGIONS AND INDICATORS

Annexes IV and V provide a list of the countries included in the study, the way that TAC has classified them into regions, and indicators of economic and agricultural growth for each country.

Data have been drawn from the World Development Report 1985, (World Bank) and from the Encyclopaedia Britannica (1986 Annual Volume).

Countries in Sub-Saharan Africa, as defined in the TAC list, comprise 412 Million people and cover an area of 22,240,000 km².

ANNEX IV
SUB-SAHARAN AFRICAN COUNTRIES AND TAC REGIONS

COUNTRIES	TAC BREAKDOWN OF REGIONS	Population (millions)	Area (1000/km ²)	Density (Pop/km ²)
1. Angola	1. <u>East/South Africa</u>	89.3	5486	16.3
2. Benin	- Angola	9.9	1247	
3. Botswana	- Botswana	1.0	600	
4. Burkina Faso	- Kenya	19.6	583	
5. Burundi	- Lesotho	1.5	30	
6. Cameroon	- Malawi	6.8	118	
7. Central African Rep.	- Mozambique	13.4	802	
8. Chad	- Swaziland	.6	17	
9. Congo	- Tanzania	21.5	945	
10. Ethiopia	- Zambia	6.4	753	
11. Gabon	- Zimbabwe	8.1	391	
12. Gambia				
13. Ghana	2. <u>Equatorial Africa</u>	81.6	4960	16.4
14. Guinea	- Burundi	4.6	28	
15. Guinea-Bissau	- Cameroon	9.9	475	
16. Ivory Coast	- Central African Rep.	2.5	623	
17. Kenya	- Congo	1.8	342	
18. Lesotho	- Equatorial Guinea	.3	28	
19. Liberia	- Gabon	1.2	268	
20. Madagascar	- Madagascar	9.9	587	
21. Malawi	- Mauritius	1.0	2	
22. Mali	- Rwanda	5.8	26	
23. Mauritania	- Sao Tome & Principe	.1	1	
24. Mauritius	- Uganda	15	236	
25. Mozambique	- Zaïre	29.7	2345	
26. Niger				
27. Nigeria	3. <u>Humid West Africa</u>	40.7	1160	35.1
28. Rwanda	- Benin	3.9	113	
29. Senegal	- Ghana	12.3	239	
30. Sierra Leone	- Guinea	5.9	246	
31. Somalia	- Ivory Coast	9.9	322	
32. Sudan	- Liberia	2.1	111	
33. Swaziland	- Sierra Leone	3.7	72	
34. Tanzania	- Togo	2.9	57	
35. Togo				
36. Uganda	4. <u>Semi-Arid West Africa</u>	132.0	6267	21.0
37. Zaïre	- Burkina Faso	6.6	274	
38. Zambia	- Cape Verde	.3	4	
39. Zimbabwe	- Chad	4.9	1284	
40. Equat. Guinea	- Gambia	.7	11	
41. Cape Verde	- Guinea Bissau	.9	36	
42. Sao Tome & Principe	- Mali	7.3	1240	
	- Mauritania	1.7	1031	
	- Niger	6.2	1267	
	- Nigeria	96.5	924	
	- Senegal	6.4	196	
	5. <u>East and Central Africa</u>	68.7	4366	15.7
	- Ethiopia	42.2	1222	
	- Sudan	21.3	2506	
	- Somalia	5.2	638	

ANNEX V

SUMMARY OF INDICATORS FOR SUB-SAHARAN COUNTRIES

TAC BREAKDOWN OF REGIONS	Est. Population (millions) year 2000	GNP Per Capita (US\$) 1983	GNP Per Capita Growth Rates 1980-84	Growth Per Capita Food Prod. (%) 1980-84
1. <u>East/South Africa</u>				
- Angola	13.2	-	-6.1	-2.2
- Botswana	1.8	920	4.8	0.7
- Kenya	36.5	340	-1.8	-2.0
- Lesotho	2.2	460	-0.8	-3.8
- Malawi	11.4	210	-0.8	-0.7
- Mozambique	21.7	-	-5.1	-3.9
- Swaziland	11.0	580	-2.9	-2.4
- Tanzania	36.9	240	-6.5	-3.4
- Zambia	11.0	580	-2.9	-2.4
- Zimbabwe	14.3	740	-2.0	-7.9
2. <u>Equatorial Africa</u>				
- Burundi	7.4	240	-0.9	-3.0
- Cameroon	16.6	820	2.9	-2.1
- Central African Rep.	4.0	280	-2.3	-1.2
- Congo	3.4	1,230	6.4	-1.7
- Equatorial Guinea				
- Gabon	1.2	3,950	-0.4	0.03
- Madagascar	16.2	310	-5.7	-0.5
- Mauritius	1.4	1,160	2.2	1.7
- Rwanda	10.2	270	1.4	-1.2
- Sao Tome & Principe				
- Uganda	24.6	220	-7.4	0.7
- Zaïre	49.9	170	-2.7	0.6
3. <u>Humid West Africa</u>				
- Benin	6.5	290	-0.1	0.5
- Ghana	23.1	310	-5.4	-0.8
- Guinea	8.3	300	-0.4	1.2
- Ivory Coast	17.3	710	-6.5	-1.5
- Liberia	3.5	480	-4.9	-1.9
- Sierra Leone	5.4	330	-2.0	-2.7
- Togo	4.9	280	-	-3.2
4. <u>Semi-Arid West Africa</u>				
- Burkina Faso	9.2	180	-3.1	-2.1
- Cape Verde				
- Chad	7.3	80	-16.0	-4.2
- Gambia	1.1	290	2.6	2.7
- Guinea Bissau	1.2	180	1.3	7.1
- Mali	11.2	160	-1.2	-1.6
- Mauritania	2.6	480	-0.8	-3.4
- Niger	10.5	240	-6.6	-5.7
- Nigeria	162.7	770	-6.5	-1.6
- Senegal	10.1	440	2.0	2.9
5. <u>East and Central Africa</u>				
- Ethiopia	63.7	120	-0.1	-3.9
- Sudan	33.4	400	-2.2	-3.6
- Somalia	8.5	250	1.8	-4.1